Charles University in Prague

Faculty of Education

Department of English Language and Literature

DIPLOMA THESIS

An analysis of the techniques used by online translators in comparison with the traditional form of translation

Analýza principů překladových technik využívaných online překladači a jejich porovnání s překladem klasickým

Author: Bc. Martin Herejk

Supervisor: Mgr. Jakub Ženíšek,Ph.D.

Study Program: Secondary School Teacher Education

Field of Study: ENG – IT 2018

Declaration

I hereby declare that I worked on this thesis, titled “The analysis of the techniques used by online translators in comparison with the traditional form of translation” on my own and that I used only the sources cited in the References section. I also declare that I have not previously used this work to gain any other academic degree than the one applied for.

Březnice, 24th July 2017 _____

Martin Herejk

Acknowledgements

I would like to thank my supervisor, Mgr. Jakub Ženíšek, Ph.D., for providing professional guidance and valuable advice, not only in relation to this thesis but also throughout my studies. I immensely appreciate his insight into the art of translation, helpfulness and patience.

Abstract

The pivotal intention of this thesis is to provide a comprehensive and detailed comparison of the contemporary machine translation and the traditional translation performed by a person. The theoretical part contains two segments which are essential towards establishing the background for the thesis. Firstly, a brief historical context is presented to illustrate how and why the concept of machine translation came to exist. Its relevance, utilization and basic technological principles are presented within the confines of the technology currently available. Secondly, an overview of specific language elements which commonly present an obstacle for translators, be it those possessing human or artificial intelligence, is elaborated and briefly commented upon. The practical part contains a selected body of text which is then translated, firstly by using a specific software and secondly by the author of the thesis. These translations are compared with regard to their accuracy, with references made to the mechanics of machine translation and the source code employed to perform the translation itself, effectively combining linguistic point of view with the technological aspect of the algorithm applied in the translation software. The final part contains a conclusion and summary of obtained results and presents a brief prognosis related to the possibilities of the development of translation in the future.

Key words: translation, machine translation, online translator, coherence, cohesion, algorithm

Abstrakt

Primárním záměrem této práce je poskytnout přehledné a detailní srovnání současné úrovně strojového překladu s překladem tradičním, prováděným člověkem. Část teoretická sestává ze dvou složek, které tvoří základní platformu pro další analýzu zvoleného tématu. Nejprve je prezentován historický kontext, jehož úkolem je ilustrovat jakým způsobem a za jakým účelem strojový překlad vznikl. Jeho význam, využití a základní technologické principy jsou překládány v rámci současné technologické úrovně. Dále je zde uveden a následně analyzován přehled konkrétních oblastí a jazykových elementů, které často představují problém jak při překladu strojovém, tak při překladu klasickém. Praktická část obsahuje vybraný úryvek textu, přeložen nejprve strojově a následně autorem. Výsledné překlady jsou pak porovnány ve své přesnosti vhledem ke zdrojovému textu, za využití odborné literatury popisující mechaniku strojového překladu a použitého zdrojového kódu. Ve výsledku pak práce kombinuje lingvistický přístup k produktu překladu, přičemž na samotný proces je nahlíženo z hlediska technického, analyzujícího využití vhodných algoritmů v překladovém softwaru. Závěr je věnován shrnutí celé problematiky a získaných výsledků. Dále pak obsahuje stručnou prognózu dalšího vývoje v oblasti překladu.

Klíčová slova: překlad, strojový překlad, online překladač, koherence, koheze, algoritmus

Contents

1 Introduction

As has been the case throughout the entire existence of the human race, arguably every single invention ever made sought to improve the struggle people encounter on a daily basis while engaging in all types of activities one might imagine. The ultimate aim has always been the alleviation of the strain on a person, caused by the given endeavour or, depending on the nature of the venture, the effort to reduce the time required to complete a certain task.

Historically, there have been several milestones which marked a significant success in advances in the field of science. Perhaps the most notable one was the Industrial Revolution, which began in the second half of the eighteenth century. As a result, within the following decades, radical changes took place. There was much less pressure on both humans and animals, in terms of routinely undergoing a physically demanding work process. However, the progress did not stop with the invention of steam power. Less than a century later, the modern steam turbine which could transform kinetic energy into electricity, was invented by Sir Charles Parsons. This invention again transformed the employment market and labour economics due to the application of assembly line which became the hallmark of the early twentieth century.

One of the most important inventions of the twentieth century was without a doubt the modern computer. It allowed for numerous other fascinating inventions and discoveries, including nuclear power, rocketry and another rather abstract invention – the internet.

The internet was created already in the 1960's, yet its original version was quite different from the one we are familiar with. Much less agile and by no means omnipresent to the degree it is now. In the contemporary society, the internet provides numerous services and is quite simply indispensable for the livelihoods of a significant percentage of the society. It has become so extensive and complex in its technologies that it once again reorganized the division of labour between people and machines. It was already in the year 1999 that the internet specialist and a cofounder and executive director of the Auto-ID Centre at MIT Kevin Ashton used the term *Internet of Things*. (Gabbai)

It was this advancement, combined the modern cyber-physical systems, which led to the current state of industrial development, which has been known as *Industry 4.0*. This label was first used in the year 2011 at the Hannover Fair and in essence specifies the trend in automation with the use of the internet. (Lydon)

Machines are connected remotely to computer systems which monitor the processes within the factory and simultaneously communicate with human operators while staying in charge of the production. What is the most outstanding aspect of this phenomenon in relation to this thesis is the newly acquired ability of the machines to gradually "learn". They are equipped with algorithm learning capabilities which then allow them to alter their pre-set configuration in order to improve the production process in the desired manner.

The above-mentioned breakthroughs in the field of science were then numbered after the Hannover Messe of 2014 to chronologically gradate the advancements. Industrial revolution (IR) 1.0 is still the most famous one with the invention of steam power which then turned to IR 2.0 and its transformation to electricity, allowing for mass production. This process was yet again improved with the invention of the computer and IT systems controlled by humans which marked the transition to IR 3.0 to finally arrive at the current state of affairs where even less human involvement is required during the Internet of Things era, ultimately leaving the machines in charge of the production, presentation and even their own upgrades of the Industrial Revolution 4.0. (Lydon)

2 Theoretical part

2.1 Principles of Machine Translation

2.1.1 Historical development

The invention of the computer revolutionized virtually every area of human activity. Although the term *computer* was used already in the seventeenth century and first mechanical computers were built in the nineteenth century, these machines were rather limited in their potential utilization for practical purposes. A much more comprehensive vision was offered by Alan Turing in 1936. His concept was purely theoretical, due to the extraordinary demands on operational memory.

Due to the historical development of the 1940's, technological progress was at an unparalleled level. Computers began to play an essential role in the military and were therefore continually improved and upgraded, which resulted in the creation of first digital and programmable computers - ENIAC. Although the machine covered an area of 1800 square feet, its very basic principles of operation were similar to the modern personal computer as we know it. (Zimmerman)

The fact that these machines were now programmable meant that they could be applied not only across the field of science, but also in other areas of human activity. A veritable infatuation took over the society, as it was a general belief that computers could very soon replace humans in any desired activity, including the act of translating a text from one language into another. (Martin)

In 1954, IBM company took part in a project together with the University of Georgetown and developed a machine capable of translating 60 sentences from Russian to English. Naturally, an unrealistic optimism took over computer enthusiasts and even IT scientists, who predicted that computers would be able to perform a near-perfect translation within the next five years. However, the process of developing algorithms capable of translating sequences of words proved to be much more challenging than initially expected. The rule-based system, which was at that time the only system applied in machine translation, required a lengthy and complicated approach to crafting an algorithm since it necessitated an implementation of the entire grammatical system into the source code. Needless to say that such efforts soon proved almost entirely futile as such programs were extremely robust, unreliable and inaccurate in their execution of translations. In 1966 the Automatic Language Processing Advisory Committee published a defeatist report, stating that despite their years of effort, human translation is faster, more accurate and half the cost of machine translation. (Hutchins, 431-440)

Two major breakthroughs came in the following years. The first was the idea of abandoning the rule-based system in translation and approach the whole process from a different angle. In the 1980's, this new angle was the statistic-based system of translation. Disregarding all the rules of grammar and syntax, this method was based on analyses of various texts thereby attempting to determine matching words or phrases in two or more different languages. The problem with this new approach was soon discovered. There were not enough raw bodies of text in various languages to establish a satisfactory database of precedents for future translations. This obstacle, however, proved debilitating only until the beginning of the 1990's and the new era of the internet. (Hutchins 441-445)

The internet was present a long time before the 1990's. Nonetheless, its role was much different. In a similar fashion to how Industrial Revolutions were put into a chronological gradation, the internet underwent a transformation from what is referred to as *Web 1.0* to *Web 2.0*. The definitions of the mentioned terms are not yet crystallized and perhaps never will be, yet the manifestations of said transformation are quite apparent. While in the era of Web 1.0, only a selected people could post material on the internet. Owning a website to which one could contribute with content of his own choice was quite rare and the amount of data on websites were much lower. With improving technology, more and more content could be posted online. The constant technological advancements also made it much more affordable for people to use the internet and expand databases with more content. This shift from an entirely commercial area to a more open one is essentially the basis of Web 2.0. To illustrate it even better, one can think of the core principles of existence of sites such as Wikipedia, Youtube or Amazon. The users basically create the entire content of said webs thereby imparting the value and attracting more users. (Brdička)

This entire process, which has developed through a snowball-effect, created an extraordinary basis for statistic-based translation to thrive. The myriads of texts in all possible languages provide countless phrases with various structures which can be analyzed and then reapplied when translating sentences of similar structure.

2.1.2 Establishing basic features and terminology

Numerous terms related to the subject matter of the thesis were already mentioned but not yet defined. This part therefore seeks to provide a comprehensive overview of the phraseology used throughout the thesis.

There is not an abundance of official technical literature when it comes to machine translation. Largely because of the fact that any subject study within the area of information technology becomes almost immediately obsolete. One largely popular publication comes from the year 2006 and was written by *W. J. Hutchins*, an English linguist, and machine translation specialist. He received his education at the University of Nottingham and his Ph.D. at the University of East Anglia. His writings, namely the *Machine Translation: History and General Principles*, will serve as the foundation for terminology used in this thesis.

The term *Machine Translation* itself can be quite a complicated term to define. Hutchins uses a rather detailed explanation as to what the phrase actually means:

> *"The term machine translation (MT) refers to computerized systems responsible for the production of translations with or without human assistance. It excludes computer-based translation tools, which support translators by providing access to on-line dictionaries, remote terminology databanks, transmission and reception of texts, etc. The boundaries between machine-aided human translation (MAHT) and human-aided machine translation (HAMT) are often uncertain and the term computer-aided translation (CAT) can cover both, but the central core of MT itself is the automation of the full translation process."* (Hutchins, 431)

The main concern with setting the definition is the degree of human involvement. Hutchins sets out to debunk the possibility of online vocabularies being considered a form of MT. The program should most definitely be able to translate larger chunks of text and not just separate phrases or lexemes. The translated text is then to be *post-edited,* rather similarly to the case of human translation, when the general practice is to have the resulting text revised by a second translator. The degree to which the translated text is to be corrected, however, is not set. That being said, an argument could be made that the simplest translation program, which divides every sentence into individual words separated by spaces, and proceeds to translate all of them without paying any attention to the syntax of the sentence or the general context in which the word is presented, could also be considered a program conducting MT. Although the example mentioned is obviously an extreme case of affairs, such programs are routinely used to provide a rough draft, or as Hutchins calls it *pre-translation,* for human translators.

The subcategories which further specify individual types of translation programs are naturally related to their area of application. Depending on the number of languages, the software can effectively work with, the translators are either *bilingual* or *multilingual*. Based on the desired purpose of the program, bilingual translators can function in a *uni-directional* or *bi-directional* mode. (Hutchins)

2.1.3 Technical aspect of translation and its shortcomings

In practice, there are three dominant approaches to how a text is processed by a translation program and its respective algorithm. The chosen methods were primarily determined by the current level of technological advancement, hence the efficiency of the newer versions was greater. However, the complexity of the source code in the more modern methods of translation was extremely noticeable. The historically oldest type of MT is commonly referred to as ***direct translation***.

This method, in essence, a word for word substitution from a specific source language (SL) to a specific target language (TL). As such, the programs utilizing this type of algorithm are exclusively bilingual and uni-directional. Their core consists of an extensive bilingual dictionary and a set of translation rules specifically tailored for one SL to be translated to a specific TL. The rules of this method dictate that the syntax and lexicon of the SL need not be examined any more than is strictly necessary to resolve potential ambiguities and apply correct word order. Therefore, no further expansion in relation to the number of languages translated is possible. The aforementioned flaw of direct translation created a need to approach the translation from a different perspective which would provide a more flexible platform in a further development of MT. This new concept was formed in the method called ***interlingual***.

This design strategy sought to overcome the limitations of its predecessor. Its key premise was the existence of a third element (or stage) in the process of translation referred to as interlingua (IL), which could be applied to more than one language. In practice, IL was supposed to be a semantico-syntactic representation of the SL which would share features with TL as well. One of the more common choices for IL was Esperanto. Other "logical" artificial languages were considered as well. (Hutchins)

In practice, the translation consisted of two stages. From SL to IL and from IL to TL. The undeniable benefit of this approach was its economy in cases when three or more languages were to be translated. However, the complexity of applying the concept of interlingua into an algorithm was so severe that this alternative approach was not a revolutionary improvement to the formerly popular direct translation. The third strategy applied in MT is called ***transfer***.

Unlike the interlingual method, the transfer does not look for an artificial medium which could serve as an immediate and universal template for translation. Instead, it divides the translation process even further so as to eliminate any ambiguities in the text and transform it with a much less pressure applied on the similarity of SL and TL.

In the first stage, the SL is transformed into an abstract SL-oriented representation of its original form. The second stage translates this representation into an abstract TL-oriented text. In the third stage, the text is fine-tuned and assumes its final form. Unlike with the IL method, the ambiguities are not dealt with entirely prior to the translation proper (the second stage of transfer). Only ambiguities related to SL are tackled. (Hutchins)

Despite the relative success of these methods, neither approach was able to provide a reliable platform for practical use on bodies of text. MT has been mostly a target of criticism as it does not yield satisfying results, despite the fact that many expected it to be near perfect decades ago. This type of technological optimism is, however, not unprecedented. Thomas Edison famously predicted, in his 1923 interview for the New York Times that films will replace student's books in the next twenty years. (Virginia) Similar optimism overtook many specialists when B. F. Skinner presented his theory of Programmed teaching (Programmed Instruction). Both cases turned out to put too much faith into the capabilities of technological advancements and demean the importance of the flexibility and creativity of a human mind. This topic is addressed in greater detail in the final chapter of this thesis.

2.1.4 Inadequacies of algorithms

Due to its complex nature, virtually every language poses an obstacle for the process of translation. Human translation makes use of the advantage provided by the use of the human brain which is capable of adapting to the changing of the situation and noticing even the slightest nuances in a phrase, ultimately creating an adequate and coherent translation. If a similar result is to be achieved by a machine, extensive effort needs to be put into crafting the algorithm so as to create a utility capable of analyzing the syntax of a sentence, in order to facilitate the correct context of each phrase. However, the essential characteristics of the algorithm are largely incompatible with those of a language.

Because of the limited, if not non-existent, options for a creative approach by a computer, an algorithm needs to be set to suit a single specific purpose, albeit frequently a convoluted one. Therefore, a specific set of guidelines was set, in order to provide a footing in developing source codes. These are as follows:

1. Finiteness. An algorithm must always terminate after a finite number of steps.
2. Definiteness. Each step of an algorithm must be precisely defined; the actions to be carried out must be rigorously and unambiguously specified for each case.
3. Input. An algorithm has zero or more inputs, i.e, quantities which are given to it initially before the algorithm begins.
4. Output. An algorithm has one or more outputs i.e, quantities which have a specified relation to the inputs.
5. Effectiveness. An algorithm is also generally expected to be effective. This means that all of the operations to be performed in the algorithm must be sufficiently basic so that they can in principle be done exactly and in a finite length of time.

(Horowitz)

Naturally, these properties do not comply with the essence of language. Most importantly, the premise of Definiteness goes entirely against the way John Lyons describes the property of productivity.

> "…that property of the language-system which enables native speakers to construct and understand an indefinitely large number of utterances, including utterances that they have never previously encountered. " (Lyons, 76)

If the entire concept of algorithms is based on the assumption that the only material it can process is of a familiar and pre-defined nature, it is nigh impossible to implement a functional and reliable program, capable of analyzing every potential possible utterance and then transforming it, especially if the utterance is a singular one.

Interestingly enough, the approach adopted lately by mainstream online translators, such as google translators employ the statistical method of translation, which, if the property of productivity of a language is to be taken into consideration, simply cannot function properly. The only reason why it actually is feasible and not futile is due to the fact that contemporary technology grants the possibility of maintaining and managing so-called *Big Data*.

In brief, Big Data is, essentially, all the data which traverse the internet. Due to the technological advancements, all data can be stored. Not only the pictures or emails, but also the browsing instructions, comments and chat messages. These data are then analyzed and managed, mainly for advertising purposes but also allegedly for improving services. (Taylor-Sakyi)

Even though the concept as such poses a rather significant threat that verges on breaching personal privacy and many other harmful effects, it does provide an enormous benefit for statistical machine translation. The abundance of phrases written in various languages and their frequency of use are extremely useful and the programs utilize the data in order to systematically increase their database of phrases and their translations into various languages.

2.2 Language point of view

2.2.1 Translation from linguistic perspective

Due to the nature of each language, MT is prone to generate text which lacks cohesion and, by extension, coherence. There are numerous opportunities for ambiguities to arise. The reasons for these ambiguities vary and are, to a large extent, caused by the fact that a machine in its essence is, in short, incapable of common sense. In other words, when analyzing a body of text, it is apt to disregard the context of the sentence and/or misinterpret specific literary figures, attempting a calque translation thereby shattering the intended meaning and presuppositions.

This may be caused by various elements. Most commonly, the source code in its analysis of the sentence misconstrues the use of deixis when making the transition from SL to TL. This unfortunate act then causes the cohesive chains to crumble. In the end, the identity chain is impossible to decipher, and the coherence of the text is compromised. The concept of context is currently lost on even the most modern of MT source codes. Therefore, complex sentences or text translated by MT, which are more complex by nature, tend to fall short of their original meaning, to put it mildly.

This is, not to mention, the incredible number of lost suffixes related to gender, grammatical case, and many others. This topic is developed to a greater extent in the practical part.

2.2.2 Literary figures

This aspect of translation is delicate even when handled by a skilled human translator. Naturally, some areas of literary devices may have to remain untranslated when a text is converted from one language to another.

Alliteration could be an example of such an occurrence. Although it does not necessarily have to be so on every occasion. When attempting human translation, the creative mind of a translator is perhaps capable of maintaining the playfulness of the vowels or consonants involved by altering the text in a minor way. This is usually done at the expense of maintaining the original text. The original meaning is hindered to a minor degree so as to communicate an opaque notional message. However, such intervention requires an informed judgment call which is competent enough to avoid obliterating the coherence of the text. Attaining such level of expertise is impossible unless true artificial intelligence is achieved. This might not, however, be the case with metaphors.

Metaphors are a subject complex enough that numerous publications have been dedicated to this topic exclusively. Cognitive linguist George Lakoff co-authored a book addressing this issue from the perspective of human comprehension. He claims that metaphors are used by the speaker to familiarize the situation, thereby providing the target psyche, be it his own or belonging to a different party, with both a more easily graspable concept of the situation and also a precedent for forming a perspective about the issue at hand. He goes on explaining that, in essence, the human brain and the nature of processing language in its description of reality is largely similar to a metaphorical interpretation of a situation, stating that "an ordinary human conceptual system is fundamentally metaphorical" (Lakoff). Acknowledging the mentioned state of affairs, the role of a translator in this situation is almost exclusively to convey the meaning inherent to the phrase, devoid of any formal constraints. The original proposition formed into a metaphor then has the capacity to be expressed in a variety of forms, ranging from similes to a paraphrase.

Needless to say, a computer is incapable of making such a decision due to the absence of thought. However, seeing as the crucial aspect of translating such a figure is solely reliant on the transfer of the idea as such, there is a solution. Although it necessitates an initial cooperation with the human mind, its implementation is still feasible. Granted, this figure of speech also poses a considerable challenge for a programmer to impart into a source code most likely with the assistance of a professional translator. That being said, Statistical translation methods are at an advantage in this area. The reason for that is the fact that, although numerous, metaphors are limited in their variety and could, therefore, be chronicled in a considerable bulk.

First and foremost, a gradually developed database would have to be established, the likes of which are currently being formed by companies such as Google. The purpose of this specific database would then be to link the metaphors from SL to ones of similar meaning in TL. This would necessitate a considerable amount of metadata and paradata, by which the author could then decide which phrase is more likely to replicate his original thoughts. This data would most likely require verification by the aforementioned professional translator. The downfall of such an approach might be the rise in cliché phrases worldwide.

Numerous other literary figures pose a minimal hardship for MT to interpret correctly. These include hyperbole and litotes, as their translation into most other languages could most likely be nearing a word-for-word translation. Irony as such would also be exempt from any major complications as its message lies beyond the particular vocabulary which is to be translated. Virtually the same could be said about understatements, oxymora, and paradoxes.

A problematic area might likely be onomatopoeia. Apart from the most classical of classic examples, this area is riddled with variations, almost as many interjections and the translation of many words is complicated by the fact that the TL might not have a specific phrase describing the happening in question.

A complete dead end would be encountered in the area of puns. This literary figure is neigh impossible to convert into similar expression within a TL at the best of times, due to the fact that its meaning is inseparably bound with its form and interpretation with the SL. Jay C. Catford raised the theory of *Untranslatability* in his 1965 publication A Linguistic Theory of Translation. He distinguishes two different cases of untranslatability – linguistic and cultural. The earlier mentioned phenomenon relates to phrases which, when translated, conveys an almost entirely different message. The latter case of the two problematic areas refers to phrases which simply have no equivalent in the TL as the item in question does not naturally occur in the geographical or socio-cultural conditions of TL's presence. Puns can, therefore, be subsumed as an area of linguistic untranslatability. An instance of a literary figure which occupies an area of cultural untranslatability, the aforementioned onomatopoeia would, at large, belong into this category. (Cathford)

2.3 Neural networks and their application in translation

Describing the actual process of translation and processes which the source text undergoes do not constitute the subject of this thesis and cannot be discussed with the level of details and precision necessary in clarifying its mechanics adequately. However, there are elements of the translation process which ought to be briefly addressed. This is done so as to establish a background on which the subsequent justification of the translation performed by the online translator can be expressed and an explanation be provided.

The concept of neural networks cannot be considered, from a current perspective, as a recent discovery. Its origins go back to the 1940's, namely to a neuroscientist Donald Olding Hebb, who first attempted to synthesize the unsupervised learning of machines (learning not based on a pre-described algorithm) with the Turing machines. (Liu, 2315)

The definition of this phenomenon may differ largely based on the field in it is to be applied. The essential idea being the attempt to replicate the way in which humans learn. In other words, this constitutes the ability to learn by applying previous experiences and synthesizing these experiences into the most likely approach to a problem, which has the highest probability of reaching the correct solution. Siganos Stergio describes this process as follows:

> "An Artificial Neural Network (ANN) is an information processing paradigm that is inspired by the way biological nervous systems, such as the brain, process information. The key element of this paradigm is the novel structure of the information processing system. It is composed of a large number of highly interconnected processing elements (neurones) working in unison to solve specific problems. ANNs, like people, learn by example. An ANN is configured for a specific application, such as pattern recognition or data classification, through a learning process. Learning in biological systems involves adjustments to the synaptic connections that exist between the neurons. This is true of ANNs as well." (Stergiou)

Currently, virtually every algorithm pertaining to machine translation employs, to a varying degree, some form of Neural Network. The translator used in this thesis, google translate, does so as well. (Wu)

2.3.1 Long-Term dependencies

The essential problem with machines performing translation is, as was mentioned before, the absence of understanding the context of individual words. One such result which is among the most problematic in translation is the fact that the cohesion of a resulting text can and often is compromised due to misrepresentation of inflections. This is especially true for languages of synthetic or even polysynthetic nature, wherein the inflections can be the predominant carriers of meaning. A disregard for grammatical case or gender in these languages often leads to a breakdown of coherence of the translated text.

In previous chapters of this thesis, it has been mentioned that machine translation tends to fail to deliver satisfactory results due to the fluidity of language. In other words, the complexity of rules regarding grammar and syntax of a language is of such a level that implementing them within an algorithm is extremely complicated. Neural networks, however, present new options in tackling this issue. Due to their design, which is based on the human brain, the programs based on this technology are able to synthesize new rules based on observation. As a result, the machine does not require a pre-written set of rules to perform the task but rather observes the examples given and attempts to replicate the observed patterns in performing the translation. To some extent, it is analogous to inductive learning.

An attempt to tackle the issue of inflections when applying neural network as an agent in the field of translation is the employment of long-term dependencies. This type of algorithm came with the invention of LSTM networks (long short term memory networks). Invented by Hochreiter and Schmidhuber, the default behaviour of long-term dependencies was to memorize information pertaining to, specifically, grammatical categories for an extended number of following words and applying this data in order to maintain the cohesion of a text.

As was already established, the basis of neural networks is the ability to continually expand their vocabulary and translating capabilities using the phenomenon of Big Data. In other words, to rely on numerous online texts a derive similarities between their translations and also to observe existing collocations in order to provide the best possible translation.

Part of this process is the ability to predict the word which is expected to occur in a string of text. The information, which is to help determine what the following word or phrase should most likely be, are stored in so-called cells, to keep in line with the neural analogy. Chris Olah, a publisher and a research scientist for Google Brain describes the function and effects of cells as follows.

“The key to LSTMs is the cell state. The cell state is kind of like a conveyor belt. The LSTM does have the ability to remove or add information to the cell state, carefully regulated by structures called gates. Gates are a way to optionally let information through.“ (Olah)

In practice, the algorithm should be able to determine, which word within the sentence is its subject and then design the following verbs and pronouns with appropriate inflections, using the information stored in the cells. When the next sentence is analyzed, a similar process has to occur and the content of a cell is updated and possibly changed if the analysis warrants it. Only then is the actual translation performed and in such fashion, which is calculated by the contents of cells in combination with the probability ratio derived from previous experiences.

2.3.2 Artificial intelligence and the Chinese room argument

This entire process of translation done by AI, needless to say, does not imply that the machine understands the source or target text. As is illustrated in the Chinese room analogy in this chapter, it simply seeks to perform a task based on a set of crafted rules and observations.

The biggest disadvantage of machine translation is in practice the inability to distinguish context. A question implicitly arises – are neural networks capable of solving the issues stemming from the innate complexities of translation?

This question has not yet been answered. It is only rather gradually that machine translation is improved. This is largely caused by the excessive number of exceptions to various grammar rules in numerous languages. In terms of simple lexis, it could be argued that a machine translator should be able to distinguish the meaning merely by allocating the word in the source language and simply transforming it to its counterpart in the target language. The whole process is unfortunately rather more complicated as it is clear that various words can take on numerous meanings.

The O.E.D. lexicographer Peter Gilliver attempted to summarize all the potential meanings of the word “run” and after months of research concluded that there are, at least, 645 various meanings that it can take. (Winchester)

In order to aptly distinguish which meaning is given word supposed to express, it is vital to take into account the context.

In the previous part, it has been established that neural networks are capable, to a certain extent, distinguish the context and perform the translation in the light of the data acquired from neighbouring words or sentences. These features allow the programs to make informed choices but in practice still fall short as the language itself provides a ground for a possibly endless amount of word combinations within a sentence. It is on this basis that a system built on previous examples of learning from experience seems like a rather inadequate solution.

The answer to this issue would be the application of strong artificial intelligence (AI). Needless to say, the concept of AI and its use in the process of MT appears as an obvious choice. There are indeed numerous areas of human life, where AI is stated to be an excellently functioning substitute for a human mind. As an example, aeroplanes use AI autopilots more than frequently. Similar applications function perfectly in the areas of email filters or plagiarism detection. It is the task of translation, however, where it continues to fall short of its goals. The technology seems continuously incapable of being an adequate substitute for the human mind as it is not designed to understand the text but rather perform the desired without the ability to identify the meaning as such. (Narula)

This obstacle could, perhaps, be explained by the argument proposed by American philosopher John Searle, which became known as the *Chinese Room Argument*. In it, Searle argues against the premise of the Turing test, which was supposed to define AI as such, and, by extension, against the philosophy of functionalism.

In this argument, he imagines himself alone in a room. He is being slipped questions which are written in Chinese (despite the fact that such language does not exist and he is most likely referring to either Cantonese or Mandarin) which he does not understand. The room contains an enormous number of books and in these books he can find the answer to every potential question asked. These books are, however, also written in a language he does not understand. He also possesses a set of instructions, which tells him in which book and at what page he can find the answer to the question he received. Albeit he cannot read a single letter of the questions given to him, using the tools at his disposal, he is able to reply to the question presented correctly, simply by copying the text he found in one of the books. The Chinese person asking the question is then presented with the answer Searle found. He can then, quite logically, make the assumption that inside the room is a person who understands the language and possesses great intelligence as he answered the question correctly. In reality, the person in the room has no idea whatsoever what the question was and also does not understand the answer he himself gave to the said question.

This, in essence, is how the AI functions. Since it cannot distinguish the actual meaning of the context, it only mechanically attempts to produce similar patterns and choose the most likely candidate for a translation. Which is why it, at times, produces completely incoherent translations of a source text. (Cole)

To conclude the language theoretical part, the evolution of machine translation shows clearly that there is no simple solution to be found when it comes to a task as complex as analyzing a body of text in various languages. The process is slowly being perfected and with varying results, which are largely dependent on the similarities between the source language and target language. If the case is such, that both languages exert similarities in syntax and a comparable approach to expressing inflection, the resulting text is much more likely its coherence and retains the original meaning. This is illustrated in the practical part of the thesis. (Olah)

3 Practical part

3.1 Translation

Chinua Achebe.

Civil Peace

Jonathan Iwegbu counted himself extra-ordinarily lucky. "Happy survival!" meant so much more to him than just a current fashion of greeting old friends in the first hazy days of peace. It went deep to his heart. He had come out of the war with five inestimable blessings--his head, his wife Maria's head and the heads of three out of their four children. As a bonus he also had his old bicycle--a miracle too but naturally not to be compared to the safety of five human heads. The bicycle had a little history of its own. One day at the height of the war it was commandeered "for urgent military action".

Chinua Achebe.

Civilní mír

Jonathan Iwegbu se považoval za mimořádně šťastný. "Šťastné přežití!" to znamená mnohem víc než jen současná móda pozdravů starých přátel v prvních mlhavých dnech míru. Došlo mu hluboko do srdce. Vyšel z války s pěti neocenitelnými požehnání - jeho hlavu, manželku Marii hlavu a hlavy tří z jejich čtyř děti. Jako bonus měl také své staré kolo - zázrak také, ale přirozeně není ve srovnání s bezpečností pěti lidských hlav. Cyklus měl svou malou historii. Jeden den ve vrcholu války to bylo řízeno "pro naléhavé vojenské akce".

Chinua Achebe

Občanský mír

Jonathan Iwegbu se považoval za nesmírně šťastlivého člověka. Pozdrav „Veselé přežití!“ pro něj znamenal nezměrně více, než jen výstřelek módy, kterým se staří známí častovali v těchto prvních nejistých dnech míru. Ta slova si našla cestu do jeho srdce. Z války vyšel s pěticí nedocenitelných požehnání – se svou hlavou, hlavou jeho ženy Marie a s hlavami tří z jejich čtyř dětí. Jako nádavek mu zůstalo jeho staré kolo – rovněž zázrak, ale nesrovnatelný s bezpečím oněch pěti hlav. To kolo mělo za sebou svůj vlastní malý příběh. V časech nejtěžších bojů bylo zkonfiskováno pro účely „naléhavých válečných operací“.

Hard as its loss would have been to him he would still have let it go without a thought had he not had some doubts about the genuineness of the officer. It wasn't his disreputable rags, nor the toes peeping out of one blue and one brown canvas shoes, nor yet the two stars of his rank done obviously in a hurry in biro, that troubled Jonathan; many good and heroic soldiers looked the same or worse. It was rather a certain lack of grip and firmness in his manner. So Jonathan, suspecting he might be amenable to influence, rummaged in his raffia bag and produced the two pounds with which he had been going to buy firewood which his wife, Maria, retailed to camp officials for extra stock-fish and corn meal, and got his bicycle back. That night he buried it in the little clearing in the bush where the dead of the camp, including his own youngest son, were buried.

Těžko, jako by mu byla ztráta, by ho nechal bez myšlenky, kdyby neměl pochybnosti o tom

pravost důstojníka. Nebylo to jeho zběsilé hadry, ani prsty vyzařující z jedné modré a jedné hnědé plátěné obuvi, ani dvě hvězdy z jeho hodnosti se zjevně spěchaly v kanceláři, což Jonathana znepokojovalo; mnoho dobrých a hrdinských vojáků vypadalo stejně nebo horší. Byl to spíše jistý nedostatek uchopení a pevnosti. Takže Jonathan, který měl podezření, že by mohl být schopen ovlivnit, vyrazil do raffie pytle a vyrobil dva kilogramy, s nimiž se chystal koupit palivové dříví, kterou jeho manželka, Maria, prodávala na úředníky tábora za extra ryby a kukuřici a vrátil jí kolo. Ta noc ho pohřbil v malém úkrytu v křoví, kde byl pohřben mrtvý tábor, včetně jeho nejmladšího syna.

Ztrátu kola, ať už jakkoli palčivou, by byl přešel bez mrknutí oka, nebýt jeho pochyb o pravosti konfiskujícího důstojníka. Nešlo o jeho pochybné hadry. O palce, které mu vykukovaly z plátěných bot – jedné modré, jedné hnědé. Dokonce ani o ty dvě hvězdy značící jeho hodnost, které byly namalovány perem a v očividném spěchu. Nic z toho Jonathana netrápilo. Mnoho čestných a hrdinských vojáků vypadalo také tak, ne-li hůř. Zarážel ho důstojníkův nedostatek sebevědomí a rozhodnosti. Předpokládaje, že by mohl být ovlivnitelný, prohrabal Jonathan svou rafiovou tašku a vydoloval ony dvě libry, za které měl koupit palivové dřevo, které jeho manželka Marie směňovala s úřední z tábora za nějaké ty sušené ryby a kukuřičnou mouku navíc a získal tak své kolo zpět. Tu noc jej zahrabal v křoví na mýtince, kde byli pohřbeni mrtví z tábora, včetně jeho nejmladšího syna.

When he dug it up again a year later after the surrender all it needed was a little palm-oil greasing. "Nothing puzzles God. " he said in wonder. He put it to immediate use as a taxi and accumulated a small pile of Biafran money ferrying camp officials and their families across the four-mile stretch to the nearest tarred road. His standard charge per trip was six pounds and those who had the money were only glad to be rid of some of it in this way. At the end of a fortnight he had made a small fortune of one hundred and fifteen pounds. Then he made the journey to Enugu and found another miracle waiting for him. It was unbelievable. He rubbed his eyes and looked again and it was still standing there before him. But, needless to say, even that monumental blessing must be accounted also totally inferior to the five heads in the family.

Když ho o rok později vyskočil po odevzdání všeho, co potřebovalo, bylo to trochu mazání palmového oleje. "Nic nezahrnuje Boha." řekl úžasně. Okamžitě ho použil jako taxi a nahromadil malou hromadu penzistů Biafranových peněz na trajekty a jejich rodiny přes čtyřlitrový úsek na nejbližší asfaltovanou cestu. Jeho standardní poplatek za každou cestu byl 6 liber a ti, kteří měli peníze, byli jen rádi, že se takovým způsobem zbaví. Na konci čtrnácti dnů udělal malé štěstí sto patnáct liber. Pak vydal cestu do Enugu a našel další zázrak, který na něj čekal. Bylo to neuvěřitelné. Opotřepal si oči a znovu se podíval a ještě před ním stála. Netřeba říkat, že dokonce i toto monumentální požehnání musí být považováno za zcela podřadné k pěti hlavám v rodině.

Když ho rok po kapitulaci opět vykopal, potřebovalo jen promazat trochou palmového oleje. V údivu si řekl „Bůh se nezamýšlí.“. Ihned začal využívat kola jako taxi služby. Vydělal malou hromádku biafranských peněz převážením úředníků z tábora a jejich rodin k nejbližší, čtyři míle vzdálené, asfaltové silnici. Za cestu si účtoval šest liber a ti, kteří peníze měli, se jich tímto způsobem rádi zbavili. Po čtrnácti dnech si vydělal malé jmění, čítající sto patnáct liber. Poté se vydal na cestu do Enugu, kde na něj čekal další zázrak. Bylo to neuvěřitelné. Promnul si oči a opět vzhlédl a stále tam stál před ním. Netřeba však zmiňovat že i toto ohromné požehnání je naprosto podřadné v porovnání s pěti hlavami v jeho rodině.

This newest miracle was his little house in Ogui Overside. Indeed nothing puzzles God! Only two houses away a huge concrete edifice some wealthy contractor had put up just before the war was a mountain of rubble. And here was Jonathan's little zinc house of no regrets built with mud blocks quite intact! Of course the doors and windows were missing and five sheets off the roof. But what was that? And anyhow he had returned to Enugu early enough to pick up bits of old zinc and wood and soggy sheets of cardboard lying around the neighbourhood before thousands more came out of their forest holes looking for the same things. He got a destitute carpenter with one old hammer, a blunt plane and a few bent and rusty nails in his tool bag to turn this assortment of wood, paper and metal into door and window shutters for five Nigerian shillings or fifty Biafran pounds.

Tento nejnovější zázrak byl jeho malý dům v Ogui Overside. Ve skutečnosti nic nezahrnuje Boha! Pouze dva domy pryč od obrovské betonové stavby, kterou nějaký bohatý dodavatel postavil těsně před válkou, byla hrobem sutin. A tady byl Jonathanův malý zinkový dům bez lítostí postavený s bahnitými bloky docela neporušený! Samozřejmě chyběly dveře a okna a pět listů ze střechy. Ale co to bylo? A stejně se vrátil do Enugu dost brzy, aby si vybral bity starého zinku a dřeva a mokré listy lepenky ležící kolem sousedství před tisíci dalšími z jejich lesních děr hledají stejné věci. Získal tísnivého tesaře s jedním starým kladivem, tupým letadlem a několika ohnisky a rezavými nehty v tašce na nářadí, aby otočil tento sortiment dřeva, papíru a kovu do dveřních a okenních oken pro pět nigerijských šilinků nebo padesát Biafranových liber.

Tímto nejnovějším zázrakem byl jeho malý dům na okraji Ogui. Vážně, Bůh se nezamýšlí! Jen o dva domy dále, kde před válkou stála obrovská betonová stavba, jíž nechal vybudovat jakýsi bohatý podnikatel, ležela nyní jen hromada sutin. A hle, Jonathanův dům vybuddovaný ze zinku, hliněných cihel a bezstarostné mysli tu stojí dál, takřka nedotčen. Samozřejmě chyběly dveře, okna a pět plátů ze střechy. Ale co to bylo? A stejně se vrátil do Enugu dost brzy, aby mohl sesbírat kusy starého zinku, dřeva a zvlhlých plátů lepenky ležících po okolí dříve, než tisíce dalších vylezou ze svých lesních nor a začnou hledat totéž. Přiměl jednoho chudého tesaře se starým kladivem, tupým hoblíkem a pár rezivými ohnutými hřebíky aby ze směsice dřeva, kovu a papíru vyrobil dveře a okenice buď za pět nigerijských šilinků nebo padesát bafrianských liber.

He paid the pounds, and moved in with his overjoyed family carrying five heads on their shoulders. His children picked mangoes near the military cemetery and sold them to soldiers' wives for a few pennies--real pennies this time--and his wife started making breakfast akara balls for neighbours in a hurry to start life again. With his family earnings he took his bicycle to the villages around and bought fresh palm-wine which he mixed generously in his rooms with the water which had recently started running again in the public tap down the road, and opened up a bar for soldiers and other lucky people with good money. At first he went daily, then every other day and finally once a week, to the offices of the Coal Corporation where he used to be a miner, to find out what was what.

Zaplatil libry a přestěhoval se do své radosti, která na ramenou měla pět hlav. Jeho děti si vybíraly mango v blízkosti vojenského hřbitova a prodaly je ženám vojáků za pár peněz - tentokrát skutečné penny - a jeho žena začala vyrábět snídani akarové kuličky pro sousedy, kteří spěchali, aby znovu začali žít. S rodinnými výdělky si vzal své kolo do vesnic kolem sebe a koupil čerstvé palmové víno, které ve svých pokojích velkoryse smíchal s vodou, která nedávno začala znovu běžet ve veřejné poklepání po silnici, otevřela bar pro vojáky a další šťastní lidé s dobrými penězi. Nejdříve šel denně, pak každý druhý den a konečně jednou týdně do kanceláří Coal Corporation, kde býval hornictví, aby zjistil, co je to.

Zaplatil v librách a se svou rozradostněnou rodinou, nesoucí po pěti hlavách na pěti párech ramenou, se přestěhoval. Jeho děti trhaly mango u blízkého armádního hřbitova a prodávaly je ženám vojáků za pár pencí – tentokrát opravdových pencí – a jeho žena začala připravovat smažené fazolové koule jako snídani sousedům, kteří chtěli rychle začít život nanovo. S takto vydělanými penězi, sedl Jonathan na kolo a objížděl vesnice, kde kupoval čerstvé palmové víno, které štědře ředil vodou, jež začala opět téci z veřejného kohoutku u silnice a otevřel bar pro vojáky a jiné šťastlivce, kteří měli peníze. Z počátku jezdíval denně do kanceláří Uhelné společnosti, kde dříve pracoval, aby věděl, jak se věci mají. Později jen jednou za dva dny a nakonec už jen jednou týdně.

The only thing he did find out in the end was that that little house of his was even a greater blessing than he had thought. Some of his fellow ex-miners who had nowhere to return at the end of the day's waiting just slept outside the doors of the offices and cooked what meal they could scrounge together in Bournvita tins. As the weeks lengthened and still nobody could say what was what Jonathan discontinued his weekly visits altogether and faced his palm-wine bar.

But nothing puzzles God. Came the day of the windfall when after five days of

endless scuffles in queues and counter-queues in the sun outside the Treasury he had twenty pounds counted into his palms as exgratia award for the rebel money he had turned in. It was like Christmas for him and for many others like him when the payments began. They called it (since few could manage its proper official name) _egg-rasher_.

Jediné, co konečně zjistil, bylo, že ten malý dům byl dokonce větší požehnání, než si myslel. Někteří jeho kolegové ex-horníci, kteří se neměli vrátit na konci dne čekají, spali před dveřmi kanceláří a uvařili, jaké jídlo si dokážou sbalit v plechovkách Bournvita. Jak se týdny prodlužovaly a nikdo nedokázal říct, co Jonathan přerušil své týdenní návštěvy a postavil se do palmového vinárny.

Ale nic neohlíží Boha. Přišel den neočekávané, když po pěti dnech nekonečné překážky ve frontách a protilehlých frontách na slunci před ministerstvem financí, které měl dvacet liber, započítával do jeho dlaní jako cenu exgratia za povstalecké peníze, které odvrátil. Bylo to jako vánoce pro něj a pro mnoho dalších, jako je jeho, když začaly platit. Říkali tomu (protože jen málo dokázalo řídit své oficiální jméno) _egg-rasher_.

Jediné co nakonec zjistil, bylo to, že jeho malý dům byl ještě větším požehnáním, než si myslel. Někteří jeho bývalí horničtí kolegové se neměli kam vrátit. Takže po dni čekání prostě usnuli venku před dveřmi kanceláří a vařili jídlo, které kde posháněli, společně v plechovkách od melty. Týdny se protahovaly a stále nikdo nevěděl, jak se věci mají. Jonathan tedy ukončil své pravidelné týdenní návštěvy a upřel svou pozornost čistě na svůj bar s palmovým vínem. Ale Bůh se nezamýšlí. Po pěti dnech nekonečných potyček při stání v té či oné frontě na slunci před ministerstvem financí, přišel onen šťastný den, kdy mu bylo do otevřených dlaní napočítáno dvacet liber jako odměna za odevzdání peněz rebelů. Když tyto exgratia platby přišly, cítil se on i mnozí ostatní jako by byly Vánoce. Říkali jim (jelikož jen málo kdo zvládl vyslovit správně celý oficiální název) _ex-plátky_.

As soon as the pound notes were placed in his palm Jonathan simply closed it tight over them and buried fist and money inside his trouser pocket. He had to be extra careful because he had seen a man a couple of days earlier collapse into near-madness in an instant before that oceanic crowd because no sooner had he got his twenty pounds than some heartless ruffian picked it off him. Though it was not right that a man in such an extremity of agony should be blamed yet many in the queues that day were able to remark quietly on the victim's carelessness, especially after he pulled out the innards of his pocket and revealed a hole in it big enough to pass a thief's head. But of course he had insisted that the money had been in the other pocket, pulling it out too to show its comparative wholeness. So one had to be careful.

Jakmile byly v dlani umístěny poznámky o libře, Jonathan ji jednoduše zavřel těsně nad nimi a pohřbila pěst a peníze v kapse kalhot. Musel být obzvlášť opatrný, protože viděl, že se muž před několika dny dříve rozpadl na téměř bláznovství před okamžikem toho oceánského davu, protože dříve, než dostal dvacet kilo, než si ho vybral nějaký bezcitný zloděj. Ačkoli to nebylo správné, že člověk na takový konec agónie by měl být obviňován ještě mnoho ve frontách, které v ten den mohli klidně poznamenat na nedbalost oběti, zvláště poté, co vytáhl vnitřnosti kapsy a odhalil v něm díru dostatečně velká, aby prošla zlodějovou hlavou. Ale samozřejmě trval na tom, že peníze byly v jiné kapse, a vytáhly ji tak, aby ukázaly svou srovnatelnou celistvost. Takže člověk musel být opatrný.

Jakmile měl Jonathan všechny bankovky na dlani, zatnul ji v pěst a i s penězi ji zabořil hluboko do kapsy svých kalhot. Musel si počínat obzvláště opatrně. Sám před několika dny viděl muže, který před tím nekonečným davem téměř zešílel, když ho o jeho dvacet liber nějaký bezcitný lotr obral. Ačkoli se nesluší házet na někoho vinu v situaci, kdy jediné co cítí, je příšerná agonie, mnozí přihlížející briskně poukázali na lehkovážnost oběti. Obzvláště po té, kdy dotyčný obrátil svou kapsu naruby a odhalil v ní otvor tak velký, že by jím jistě prošla i pachatelova hlava. Nešťastník ale přirozeně trval na tom, že obnos měl v druhé kapse, kterou záhy rovněž vytáhl, aby ukázal její relativní celistvost oproti té druhé. Člověk prostě musel být opatrný.

Jonathan soon transferred the money to his left hand and pocket so as to leave his right free for shaking hands should the need arise, though by fixing his gaze at such an elevation as to miss all approaching human faces he made sure that the need did not arise, until he got home. He was normally a heavy sleeper but that night he heard all the neighbourhood noises die down one after another. Even the night watchman who knocked the hour on some metal somewhere in the distance had fallen silent after knocking one o'clock. That must have been the last thought in Jonathan's mind before he was finally carried away himself. He couldn't have been gone for long, though, when he was violently awakened again. "Who is knocking?" whispered his wife lying beside him on the floor. "I don't know," he whispered back breathlessly.

Jonathan brzy převedl peníze na levou a kapesní kapsu, aby mu v případě potřeby nechal právo, aby se potřásl rukou, ačkoli tím, že upřesnil pohled na tak vysokou výšku, aby se vyhnul všem blížícím se lidským tvářím, ujistil, že potřeba není až se vrátí domů. Běžně byl těžký spánek, ale v noci zaslechl, že všechny sousedské zvuky zmizejí jeden po druhém. Dokonce i noční hlídač, který hodinu hodil na nějakém kovu někde v dálce, zmlkl po jedné hodině. To muselo být poslední myšlenka v Jonathanově mysli předtím, než byl konečně uvězněn. Nemohl však dlouho odejít, když se znovu znovu probudil. "Kdo klepá?" zašeptala jeho manželka ležící vedle něj na podlaze. "Nevím," zašeptal za ním dech.

Jonathan záhy přemístil peníze z pravé ruky do levé, aby ji uvolnil pro případné potřesení, pro případ, že by to bylo třeba. Jelikož ale cestou zíral před sebe na zem v takovém úhlu, aby nemohl zahlédnout jediný obličej, žádná taková situace nemohla nastat. Obvykle spával tvrdě, ale tuto noc slyšel utichat každý jednotlivý zvuk v širém okolí. Dokonce i noční hlídač, který někde v dáli odbíjel utíkající hodiny do kusu plechu, se po jedné hodině ráno odmlčel. Tato myšlenka musela být tou poslední, která se Jonathanovi prohnala hlavou, než konečně také usnul. Netrvalo však dlouho a opět byl násilně přiveden k vědomí. „Kdo to ťuká?“ zašeptala jeho žena, ležící na zemi vedle něj. „Nevím.“ odvětil se zatajeným dechem.

The second time the knocking came it was so loud and imperious that the rickety old door could have fallen down. "Who is knocking?" he asked then, his voice parched and trembling. "Na tief-man and him people," came the cool reply. "Make you hopen de door." This was followed by the heaviest knocking of all. Maria was the first to raise the alarm, then he followed and all their children. _"Police-o! Thieves-o! Neighbours-o! Police-o! We are lost! We are dead! Neighbours, are you asleep? Wake up! Police-o!"_ This went on for a long time and then stopped suddenly. Perhaps they had scared the thief away. There was total silence. But only for a short while. "You done finish?" asked the voice outside. "Make we help you small. Oya, everybody! _Police-o! Tief-man-o! Neighbours-o! we done loss-o! Police-o!..."_ There were at least five other voices besides the leader's.

Druhýkrát, když klepal, bylo to tak hlasité a obratné, že mohutné staré dveře mohly spadnout. "Kdo klepá?" zeptal se pak a jeho hlas se vyprskal a třásl se. "Na muže a muži," odpověděl chladně. "Udělej si, jak se vyspíš." Toto následovalo nejtěžší klepání všech. Maria byla první, která vyvolala poplach, pak následoval a všechny jejich děti. _'Police-o! Zloději! Sousedé! Policie-o! Jsme ztraceni! Jsme mrtví! Sousedé, spíte? Vzbudit! Policie! "" To trvalo dlouho a pak se náhle zastavilo. Možná ho vyděsili zloději. Celé ticho bylo. Ale jen na krátkou chvíli. "Udělali jste to?" zeptal se hlas venku. "Pomůžeme ti malou pomoc. Oya, všichni! " _'Police-o! Tief-muž-o! Sousedé! jsme udělali ztrátu! Policie-o! ...'_ Vedle vůdce bylo ještě dalších pět hlasů.

Druhé zabouchání bylo tak hlasité a naléhavé, až se chatrné dveře domu téměř vylomily z pantů. „Kdo klepe?“ otázal se vyprahlým a roztřeseným hlasem. „No zoděj a jeho parta.“, zněla chladná odpověď. „tevřte ty dveře.“ Načež následovalo zatím nejsilnější zabouchání ze všech. Maria jako první začala křičet na poplach. _„Policíéé! Zlodějíí! Sousedovéé! Policíéé! Jsme ztracení! Jsme mrtví! Sousedi, spíte? Vzbuďte se! Policíéé“ _ Takto to šlo hodnou chvíli a pak vše náhle přestalo. Možná se jim povedlo zloděje zastrašit. Bylo naprosté ticho. Ale pouze na okamžik. „Končilas?“ zeptal se hlas zvenčí. ‚Moci ti málo pomoc. Ey, šicky! _Policíé-é! Zlodějové-é! Sousedové-é! Jsme tracený-ý! Policíé-é!“_ Kromě jejich vůdce bylo slyšet nejméně pět dalších hlasů.

Jonathan and his family were now completely paralysed by terror. Maria and the children sobbed inaudibly like lost souls. Jonathan groaned continuously. The silence that followed the thieves' alarm vibrated horribly. Jonathan all but begged their leader to speak again and be done with it. "My frien," said he at long last, 'we don try our best for call dem but I tink say dem all done sleep-o... So wetin we go do now? Sometaim you wan call soja? Or you wan make we call dem for you? Soja better pass police. No be so?" "Na so!" replied his men. Jonathan thought he heard even more voices now than before and groaned heavily. His legs were sagging under him and his throat felt like sandpaper.

"My frien, why you no de talk again. I de ask you say you wan make we call soja?" "No." "Awrighto. Now make we talk business.

Jonathan a jeho rodina byly nyní zcela ochromeny terorem. Maria a děti vzlykaly nepochopitelně jako ztracené duše. Jonathan neustále zasténal. Ticho, které následovalo po poplachu zloděje, strašidelně vyzařovalo. Jonathan všichni jen vyzval svého vůdce, aby znovu promluvil a skončil s ním. "Můj příšerník," řekl konečně, "snažíme se vyzkoušet co nejlépe, ale já říkám, že jsme všichni spali ... Takže mokré jdeme teď? Sometaim, kdybys volal soja? Nebo byste chtěl, abychom vám zavolali? Soja lépe projít policií. Není to tak? " "Na tak!" odpověděli muži. Jonathan si myslel, že slyšel ještě víc hlasů než předtím a ztěžka zasténal. Pod jeho nohama se mu kloužely a hrdlo mu připadalo jako brusný papír.

"Můj blázen, proč si nemyslíš znovu. Žádám vás, abyste říkali, že chcete, abychom nazvali soja? " 'Ne'. "Awrighto. Nyní děláme obchodní jednání.

Jonathan a celá rodina byli naprosto ochromeni hrůzou. Marie a děti, jako zatracené duše, nehlasně vzlykaly. Jonathan dlouze úpěl. Ticho, které následovalo po probuzení lupiči, tlačilo na ušní bubínky. Jonathan skoro žadonil vůdce zlodějů, aby znovu promluvil a ukončil to. „Kamará," řekl konečně, „uďáli sme co se dalo je zavolat, ale myslim, že ty šichni oni spát… Tak čeho my dělat teď? Někdy chtěl volal fojak? Nebo chtěl my ho volal za ty? Fojak lepší přišla polisije. Ne tak?" „Na tak!" odpověděli jeho muži. Jonathan si myslel, že slyší ještě více hlasů než předtím a ztěžka zaúpěl. Nohy se mu podlamovaly a v krku měl pocit, jako kdyby snědl ježka. „Kamará, proč ty nemluvil znova. Já ptal ty chtěl my volal foják pro ty." „Ne". „Dobro. Teď my obcho mluvil o.

We no be bad tief. We no like for make trouble. Trouble done finish. War done finish and all the katakata wey de for inside. No Civil War again. This time na Civil Peace. No be so?" "Na so!" answered the horrible chorus. "What do you want from me? I am a poor man. Everything I had went with this war. Why do you come to me? You know people who have money. We..." "Awright! We know say you no get plenty money. But we sef no get even anini. So derefore make you open dis window and give us one hundred pound and we go commot. Orderwise we de come for inside now to show you guitar-boy like dis..." A volley of automatic fire rang through the sky. Maria and the children began to weep aloud again. "Ah, missisi de cry again. No need for dat. We done talk say we na good tief. We just take our small money and go nwayorly. No molest. Abi we de molest?" "At all!" sang the chorus.

Nemůžeme být špatné. My nemůžeme dělat potíže. Problém dokončený. Válka skončila a všechny katakata jsme pro ni uvnitř. Žádná občanská válka znovu. Tentokrát na Civilní mír. Není to tak? " "Na tak!" odpověděl hrozný sbor. 'Co ode mě chceš? Jsem chudý člověk. Všechno, co jsem měl s touto válkou. Proč přijdete ke mně? Znáte lidi, kteří mají peníze. My ... "" Awright! Víme, že nemáte dost peněz. Ale my nejsme ani dostat ani anini. Takže odtamtud otevřete okno a dejte nám sto liber a vyjedeme. Řekněme, že teď přijdeme dovnitř, abychom vám ukázali kytaristu jako ... Displej automatického ohně zazvonil oblohu. Maria a děti začaly znovu plakat nahlas. "Ach, znovu promluvte. Není potřeba dat. Udělali jsme hovory, že říkáme dobře. Prostě si vezmeme naše malé peníze a jdeme dál. Bez obtěžování. Ani jsme obtěžováni? " 'Vůbec!' zpíval sbor.

My ne špatný zoděj. My problém rád nedělal. Problém konec. Válka konec a všechen ten katakata čekat na uvnitř. Ne občanská vála znovu. Tenhle čas občanský mír. Nebýt tak?“ „Na tak!“ odvětil ten příšerný sbor. „Co ode mě chcete? Jsem jen chudý muž. Vše co jsem měl, jsem ztratil ve válce. Proč jste za mnou přišli? Znáte lidi, kteří mají peníze. My…“ „Dobro! My vědět říkat ty nedostat velká peníze. Ale my nedostat vůbec žádná. A teda my chtít ty otevřel okna a dal nás sto liber a my jít cesta. Jinak my jít vnitř ukázat ty hra na kytara jako taková…“. Noc prořízl zvuk střelby z automatické pušky. Maria a děti začaly opět hlasitě plakat. „Ah, mádam začit plakat nový. Netřeba to. My řekl dřív my dobrý zoděj. My si zal jen malá peníze a šla svocestu. Nic násilnění. My násilili nědy?“ „Nidy!“ zapěl sbor.

"My friends," began Jonathan hoarsely. "I hear what you say and I thank you. If I had one hundred pounds... " "Lookia my frien, no be play we come play for your house. If we make mistake and step for inside you no go like am-o. So derefore..." "To God who made me; if you come inside and find one hundred pounds, take it and shoot me and shoot my wife and children. I swear to God. The only money I have in this life is this twenty-pounds _egg-rasher_ they gave me today..." "OK. Time de go. Make you open dis window and bring the twenty pound. We go manage am like dat." There were now loud murmurs of dissent among the chorus: "Na lie de man de lie; e get plenty money... Make we go inside and search properly well... Wetin be twenty pound?..." "Shurrup!" rang the leader's voice like a lone shot in the sky and silenced the murmuring at once.

"Moji přátelé," začal chraptivě Jonathan. "Slyšel jsem, co říkáte, a děkuji vám. Kdybych měl sto kilogramů ... "Podívej se na můj příšerník, nebuď hrát, přijdeme si domů. Pokud uděláme chybu a vejdeme do ní, nechodíme jako am-o. Takže odtamtud ... "" Bohu, který mě udělal; pokud přijdete dovnitř a najdete sto liber, vezměte ji a zastřelte a střílejte svou ženu a děti. Přísahám Bohu. Jediné peníze, které mám v tomto životě, jsou ty dvacet liber, které mi dali dnes ... "" Dobře. Čas odchodu. Otevřete okno a přiveďte dvacet liber. Můžeme řídit jako já. " Hlasy nesouhlasného hlasu byly nyní mezi hlasem: "Na lži člověka; Získejte spoustu peněz ... Zajistíme, abychom šli dovnitř a hledali správně ... Máte dvacet liber? ... "" Shurrup! " zazvonil hlas lídra jako osamělý výstřel na obloze a okamžitě mlčel.

„Moji přátelé,“ začal Jonathan ochraptěle. „Rozumím tomu, co říkáte, a děkuji vám. Kdybych měl sto liber….“ „Podíval moje kamará, ty s my nehrál my přišli hrát s ty dům. Když my udělá chybu a šel dovnitř tobě nebude líbit. Takže…“ „Při Bohu, který mě stvořil; pokud vejdete dovnitř a najdete sto liber, vezměte si je a zastřelte mě, mou ženu a děti. Přísahám Bohu. Jediné peníze, které v tomto životě mám, je těchto dvacet liber, které mi dnes dali jako _ex-plátky_...“ „OK. Čas odešel. Otevřel ten okno a přines ty dvacet libra. My stačil tolik.“ Náhle se začaly ozývat nesouhlasné hlasy mezi členy sboru: „Na muž lhát, muž lhát; ten dostat velký peníze…. My jít vnitř a hledat pořádně. Co být dvacet libra?“ „Ržubu!“ zazněl hlas vůdce jako rána z pušky a rázně umlčel všechny nespokojené hlasy.

"Are you dere? Bring the money quick!" "I am coming," said Jonathan fumbling in the darkness with the key of the small wooden box he kept by his side on the mat. At the first sign of light as neighbours and others assembled to commiserate with him he was already strapping his five-gallon demijohn to his bicycle carrier and his wife, sweating in the open fire, was turning over akara balls in a wide clay bowl of boiling oil. In the corner his eldest son was rinsing out dregs of yesterday's palm wine from old beer bottles. "I count it as nothing," he told his sympathizers, his eyes on the rope he was tying. "What is _egg-rasher_? Did I depend on it last week? Or is it greater than other things that went with the war? I say, let _egg-rasher_ perish in the flames! Let it go where everything else has gone. Nothing puzzles God." (Achebe)

"Jste dere? Přiveďte peníze rychle! " "Přicházím," řekl Jonathan v temnotě s klíčem malého dřevěného boxu, který držel po boku na rohoži. Při prvním znamení světla jako sousedů a dalších, kteří se shromáždili, aby se s ním stýkali, už si připínal svého pětimilionového demijohnu na svého nosiče a jeho žena, která se pootevila v otevřeném ohni, převrátila akarové kuličky v široké misce s varu olej. V rohu svého nejstaršího syna vypláchaly dřeně včerejšího palmového vína ze starých lahví piva. "Počítám to jako nic," řekl svým sympatizantům s očima na lano, které váže. "Co je _egg-rasher_? Závisel jsem na to minulý týden? Nebo je to větší než ostatní věci, které šly s válkou? Říkám, nechte _egg-rasher_ zahynout v plamenech! Nechte to jít tam, kde je všechno ostatní. Nic nezahrnuje Boha. "

„Ty tam? Přines peníze rychlý!“ „Už jdu,“ řekl Jonathan, svírajíc ve tmě klíč od malé dřevěné truhly, kterou měl uschovanou vedle své matrace. Hned po rozbřesku se u Jonathana shromáždili sousedé a známí, aby mu projevili soucit. On už v tu dobu ale přivazoval na kolo pětigalonový demižon a jeho žena se potila u ohně, kde na široké hliněné míse plné vařícího oleje smažila fazolové koule. Jeho nejstarší syn v rohu vymýval zbytky palmového vína ze starých lahví od piva. „Mě to netrápí,“ řekl svým známým, nespouštěje oči z provazu, který právě utahoval. „Co jsou _ex-plátky_? Závisel na nich můj život minulý týden? Byly snad důležitější než ostatní věci, které jsem ve válce ztratil? Jak říkám, čert vem _ex-plátky_! Ať táhnou tam, kam zmizelo vše ostatní. Bůh se nezamýšlí!“

3.2 Analysis

3.2.1 Source text

The choice of text to be used in the illustration of machine translation and its subsequent comparison to a traditional human-made translation, was not selected randomly. The choice of the author, Chinua Achebe, was quite deliberate. In order to demonstrate shortcomings, or indeed the strengths, of such translation, the source text ought to be varied in as many regards as possible.

3.2.1.1 Historical background

Civil Peace is a short story set in eastern Nigeria, describing the life of local inhabitants following the civil war which took place in the last three years of the 1960's. Much like numerous other works by Achebe, it is attempting to realistically portray the struggle of regular people and families, whose lives and homes were utterly devastated by the war. The war was waged for numerous reasons.

Firstly, there was the question of ethnicity. Great Britain, during its colonial expansion, carved out an arbitrary piece of land for themselves, disregarding the fact that the emerging state of Nigeria was made up of over three hundred individual ethnicities, often sharing an irreconcilable hatred for one another, lasting for centuries. For years, there were clashes between the individual ethnical groups and hatred was perpetuated between these groups with Britain's tacit approval. The three ethnicities, which were greatest in numbers, were the Igbo in the southeast, Housa-Fulani in the north and the Yoruba in the southwest. It was the eastern part, the Igbo people, who performed a coup to save a situation, which they believed would disintegrate the country. This action, however, provoked a reaction from the Housa-Fulani Muslims, who were strongly opposed to the idea of independence from Britain, resulting in pogroms being waged on people of Igbo ethnicity, which escalated into an all-out war, after the east announced secession and creation of the state of Biafra.

From economic standpoint, the key to end the war, and an additional reason for waging one in the first place, were the oil fields in the east. Although most of the world powers were divided on the topic of which side to support, the Nigerian army came out victorious with the support of Egypt, Great Britain and the Soviet Union. (Madiebo)

3.2.1.2 Representation of historical facts within the story

Although it is never directly mentioned in the book, it is obvious that, just like Achebe himself, Jonathan is a member of the Igbo ethnicity and thus a former rebel whose side lost the war.

After the end of the war, a new order had to be established and the residues of the war had to be dealt with. One issue which had to be solved was the opposing monetary situation which was established during the war when Biafra created their own currency – a Biafran pound. This monetary unit, although unrecognized by the rest of the world, was used in Biafra during the war and had to be replaced at the end of it with the traditional Nigerian pound. The Treasury Department came with the idea of handing over an ex-gratia payment of twenty Nigerian pounds for any amount of the rebel currency to each individual person who submits their Biafran pounds. As the term itself suggests, it was considered a gift and not a reimbursement for the money deposited. This endeavour, among other effects, left the Igbo middle class in a state of virtual poverty as their currency became worthless This, of course, was one of the desired effects of said arrangement. (Madiebo)

An additional reflection of the historical context arises in the situation where Jonathan and his family are being robbed. The thieves offer themselves to call the soldiers, supposedly, to aid Jonathan. During the time in which the story is set, however, the Igbo people would have little to no support from their local authorities and least of all the army, as its members were almost exclusively of Housa-Fulani or Yorubu origin and their involvement was largely unlikely to be of any benefit to Jonathan due to him being Igbo. He himself declines this offer made by the leader of thieves most likely for said circumstances.

3.2.2 Lexical analysis

Considering the content and conclusion of the theoretical part, the lexical aspect of translation should not be such a problematic area. Taking into account the nature of machine translation, the relative atomicity of content words does provide a more ideal area of operation. However, even in this area, there are numerous erroneous interpretations of the source text, some of which are almost impossible to justify.

One such example is present directly on the first page when the word "bicycle" was being translated. On this occasion, the text was transformed thusly:

As a bonus he also had his old bicycle--a miracle too but naturally not to be compared to the safety of five human heads. **The bicycle** had a little history of its own.	Jako bonus měl také své staré kolo - zázrak také, ale přirozeně není ve srovnání s bezpečností pěti lidských hlav. **Cyklus** měl svou malou historii.

There is very little, if any, justification for such an error. There is, of course, a trail which could lead to the resulting translation. The algorithm correctly allocated the term for "bicycle" in the target language (TL) as "kolo" and attempted to factor in the probability ratio – how often do similarly structured sentences appear within the source materials for the algorithm's translation choices. As a result, the translator established "cyklus" to be a more likely candidate for this position as one meaning of the homograph "kolo" happens to be in a synonymical relationship with it, coupled with its higher frequency having a particular "history".

Furthermore, it would only be possible to contemplate such a trail, under the condition that the cell, which was supposed to retain the information about the subject of the previous sentence, failed to do so, as the subject is repeated. The subject of the first sentence might have been dropped due to its complexity and perhaps replaced with the word "miracle".

Whatever the case may be, a human translator would have little to no trouble discerning the correct term for the agent of the sentence in question, creating, for example, the following sentence:

"**To kolo** mělo za sebou svůj vlastní malý příběh."

The second page also presents an abundance of material, which could be analysed on a similar basis.

. It wasn't his **disreputable** rags, nor the toes **peeping** out of one blue and one brown canvas shoes, nor yet the two stars of his rank done obviously in a hurry in biro, that troubled Jonathan;	Nebylo to jeho **zběsilé** hadry, ani prsty **vyzařující** z jedné modré a jedné hnědé plátěné obuvi, ani dvě hvězdy z jeho hodnosti se zjevně spěchaly v kanceláři, což Jonathana znepokojovalo;	Nešlo o jeho **pochybné** hadry. O palce, které mu **vykukovaly** z plátěných bot – jedné modré, jedné hnědé. Dokonce ani o ty dvě hvězdy značící jeho hodnost, které byly namalovány perem a v očividném spěchu. Nic z toho Jonathana netrápilo.

Leaving aside the obvious failure to retain the original meaning, which is to be discussed in the later part of this thesis, the MT contains additional, arguably, erroneous translations.

The decision to translate the phrase “disreputable rags” as “zběsilé hadry” seems like a rather ineptly formed collocation. The word “pochybný” simply appears as a much more eloquent choice.

A more interesting error, however, is the translation of “peeping” as “vyzařující”. There seems to be virtually no logical explanation for the choice made. One possibility is, however, that the resulting phrase was influenced by the presence of the word “stars” within the same sentences and thus altered the algorithm in an undesirable way.

Nevertheless, these two mistranslations hardly hinder the overall coherence of the text. Nor does the rather ponderous translation of the two nouns in the phrase “lack of grip and firmness” when describing the character of an officer as “jistý nedostatek uchopení a pevnosti.“

The handling of the following part of the story is even more problematic.

So Jonathan, suspecting he might be amenable to influence, **rummaged** in his raffia bag and produced the two **pounds** with which he had been going to buy firewood which his wife,	Takže Jonathan, který měl podezření, že by mohl být schopen ovlivnit, **vyrazil** do raffie pytle a vyrobil dva **kilogramy**, s nimiž se chystal koupit palivové dříví, kterou jeho manželka,	Předpokládaje, že by mohl být ovlivnitelný, **prohrabal** Jonathan svou rafiovou tašku a vydoloval ony dvě **libry**, za které měl koupit palivové dřevo, které jeho manželka

Leaving aside the fact that "raffia" is in the Czech language spelled with a single "f", there are several other, more severe inaccuracies in this extract.

Firstly, there is the translation of "rummaged" as "vyrazil" which makes little to no sense, from a purely lexical point of view. And secondly, there is the clumsy attempt at translating the word "pounds". In this instance, the homograph is clearly meant to be understood in the monetary sense, rather than an expression of mass. This error is still quite understandable since the word is preceded by a verb which would, perhaps more commonly, warrant the following noun to be of a more material nature.

The misinterpretation of a pound for a kilogram seems like a much more of an illogical translation. Yes, texts written in Czech would most definitely employ the latter word to express weight. Notwithstanding, the two measurements are quite distant in their nominal value – a difference of more than two hundred percent of mass intended. This error does occur on many other occasions throughout the story.

Although Chinua Achebe does not use any complex literary figures in Civil Peace, there is a phrase which is central to the entire story, and its translation is quite intricate. It is at page three of the translated text where it is used for the first time. The phrase being “Nothing puzzles God.”.

This phrase is essential in understanding Jonathan’s attitude towards life as such. It is this way of looking at events, which he goes through, which defines who he is. An optimist, who is too busy trying to live his life, the main goal of which is to look after his most cherished of blessings - his family. The blessings and miracles he mentions throughout the story only verify that he is plainly a hard-working man with a positive outlook on life. In many ways, Jonathan seems to be Achebe’s impersonation of a typical member of Igbo society. Therefore, it was imperative for the translation of this phrase to be as close to its original meaning as possible.

The obvious issue with this phrase is the specific interpretation of the verb “puzzles”. The potential translation depends on a range of possible meanings, from “frustrates” or “troubles” to “confuses” or “interests”.

Although some translations seem more likely than others, at the bare minimum, a binary opposition arises. Is the phrase supposed to mean that God always knows what to do and is therefore never confused or is the phrase meant to convey that God does not waste time trying to understand the world?

It appears that it differs slightly based on the situation when it is used. When Jonathan finds his bicycle in a nearly perfect state after a year of being buried underground, the phrase is most likely used to stop Jonathan’s potential wondering about what he has just witnessed and make him move on and get back to work.

On the other hand, when the phrase is used after Jonathan is robbed of his twenty pounds, the more likely purpose of that phrase might just be that it is pointless to ponder about how unfortunate his fate is.

Ultimately, however, the phrase is used by Jonathan as a means of moving on with his life without wasting precious time by brooding over things, which are pointless to fret about.

The translation settled for by google translate is, however, most imprecise and disappointing.

"Nothing puzzles God. "	"Nic nezahrnuje Boha."	„Bůh se nezamýšlí.“

It goes without saying that the MT, at least in this case, failed entirely to convey the original message and the reasons for the choice of phrasing seem largely illogical, given the aforementioned mechanisms which are at work during the process.

The phrasing chosen in the human translation was specifically designed to maintain the shortness and directness of the original text as well as to maintain the key idea behind it. That is in all four of the situations when it was used. The alternatives being "Boha nic netrápí. " and "Boha nic nezaskočí".

Although none of the choices presented seem to adequately capture the meaning intended, the general message of the statement is present.

An argument can be made that the aforementioned translations are essentially the same and perhaps the two, which were not chosen, would be, at least in form, closer to the original. However, the ultimate goal of translating a text should be to replicate its meaning as meticulously as possible. The form often takes part in conveying the meaning and adds an additional value. It is undeniably true that the translator inevitably adds, omits or transforms the meaning of the source text as well. Nevertheless, it should be the ambition of human translators to act in such fashion as they mostly have a capacity to do so. Looking at the text translated by MT, one can only state that the inability to eloquently alter the form of a text – the word order and the overall sentence structure, is certainly among its disadvantages.

Perhaps the very epitome of the unreliability of MT is present on the third page in a seemingly easily translatable extract.

He put it to immediate use as a taxi and accumulated a **small pile of Biafran money** ferrying camp officials and their families across the **four-mile stretch** to the nearest tarred road.	Okamžitě ho použil jako taxi a nahromadil **malou hromadu penzistů Biafranových peněz** na trajekty a jejich rodiny přes **čtyřlitrový úsek** na nejbližší asfaltovanou cestu.	Ihned začal využívat kola jako taxi služby. Vydělal **malou hromádku biafranských peněz** převážením úředníků z tábora a jejich rodin k nejbližší**, čtyři míle vzdálené**, asfaltové silnici.

Despite the fact that MT does take certain liberties in its lexical choices, there does not appear to be any logical reason for the algorithm to decipher either of the original words, be it "pile" or "money", as the Czech equivalent of pensionaries. A point must be conceded that the attempt at translating the act of ferrying, although incorrect in this particular case, would in a traditional context be handled rather well, even using the correct preposition. That being said, another puzzling occurrence is present directly after said phrase when a mile is translated as a litre. It is yet again a case in which the process leading to the final error is opaque and the logical chain of transformation is nowhere to be found. The sentence as a whole then becomes almost comically incomprehensible and loses its coherence almost entirely.

It is only in comparison with the following sentence that the unstable, or almost bipolar, nature of MT reveals itself through the following text.

His standard charge per trip was six pounds and those who had the money were only glad to be rid of some of it in this way.	Jeho standardní poplatek za každou cestu byl 6 liber a ti, kteří měli peníze, byli jen rádi, že se takovým způsobem zbaví.	Za cestu si účtoval šest liber a ti, kteří peníze měli, se jich tímto způsobem rádi zbavili.

Not only does this sentence contain no translational errors in terms of lexis applied. The punctuation is also spot on and the inflections as well. In fact, the only thing MT fails to capture in its handling of the source text is the absence of a personal pronoun. The syntactic aspects of translation are further analyzed in the following part of the thesis. This extract was used at this place to illustrate the instability in how the source text can be handled in various situations.

So far, the lexical inaccuracies presented by the algorithm have always been, more or less, understandable. During the machine's handling of the text and moulding it into an entirely different structure, it showed at times an inclination to craft peculiar structures and put forward questionable word choices. It has not, however, presented non-existing words. That is until the actions of Jonathan noticing another miracle are described.

He rubbed his eyes and looked again and it was still standing there before him.	**Opotřepal si oči** a znovu se podíval a ještě před ním stála.	**Promnul si oči** a opět vzhlédl a stále tam stál před ním.

Needless to say, the eye-catching incongruity is the very first word of the sentence. Frankly, it cannot even be considered a word, for it is not present in a Czech monolingual dictionary. Furthermore, what is perhaps even more disturbing, is the fact that this word is nowhere to be found by google search itself. Keeping in mind the mechanisms involved in the process, which a text undergoes when being processed by google translate, patterns are sought out in existing texts throughout the web. So, although the word itself is not present in Czech dictionaries it could have been argued that the algorithm simply found a formation of letters which is often applied in similar sentence structures and decided to use it on this particular occasion. Yet it is not the case. There are no documents featuring this word, at all. Which would imply that the program took an incredible liberty and simply formed a new word. Which itself seems rather eloquent even though the root of the word "třep" does not appear to be in line with the original action proposed by the author.

Quite interestingly, the translation of said sentence changes if the ending is omitted. The following pairs of translations appear if the length of the sentence is tampered with.

He rubbed his eyes and looked again and it was still standing	**Zmlkl si oči** a znovu se podíval a stále ještě stojí

Naturally, there is still no clear connection with the new substitute for the initial word of the sentence. Nevertheless, the choice made in this case has, at the very least, a meaning and does exist as a word as such.

This translation of the verb "rubbed" remains in use up to the point when the phrase is reduced to the subject, verb and direct object, in other words, when the source text contains only a single clause. Then the result changes yet again.

He rubbed his eyes	**Otřel si oči**

Now, although still imperfect, it could be said that this version is by far the most precise choice of word selection to convey the original meaning. Naturally, the shorter the phrase, the higher the likelihood of it being translated with the highest level of precision. The more complex the source text is in terms of syntax and inflections the more arduous the process becomes. The further the sentence strays from containing only the two main sentence constituents – subject and verb, the higher the error rate of the resulting text. The cells, mentioned in the theoretical part, which contain grammatical information pertaining to the case gender or tense of the source phrase are expected to sort out the information needed for a successful translation. In the aforementioned sentence, the overall choice of lexis is directly affected by the complexity of the sentence itself. Naturally, this is expected to take place as the context often does alter the meaning of the phrases used. It should not, however, warrant an alteration to the fundamental meaning of the word used. Which would never happen should the process be directed by a human, in which case the combination of the subject and predicate of the sentence discussed would hardly ever become as distant and grotesque as is the case with the first two aforementioned translations.

Another quite creative decision of the translator appears on the following page. It has been established that the machine has no consciousness and therefore cannot, by definition, select figurative translations. Still, due to several co-occurring serendipities, some phrases can become somewhat poetic.

Only two houses away a huge concrete edifice some wealthy contractor had put up just before the war was a **mountain of rubble.**	Pouze dva domy pryč od obrovské betonové stavby, kterou nějaký bohatý dodavatel postavil těsně před válkou, **byla hrobem sutin.**	Jen o dva domy dále, kde před válkou stála obrovská betonová stavba, jíž nechal vybudovat jakýsi bohatý podnikatel, ležela nyní jen **hromada sutin.**

Leaving aside the clumsy approach to subject of the sentence, the ending phrase of the translated text does have an undeniable poetic quality to it, quite befitting the situation given. That is despite the fact that there certainly were numerous possible translations to the word "mountain". Not to say that this translation is, in fact, accurate but it does reveal potential on the part of the machine.

A rather more logical error appears several lines further into the story. It appears warranted, perhaps much more so than the previous ones discussed, yet not entirely. The algorithm chose to transform "bits of old zinc and wood" as "bity starého zinku a dřeva". This faulty translation has, without a doubt, source in the inherent complexity of a homograph translation. It is apparent that although in many situations Big Data is a functional basis to build a translation engine on, the results still fall short even in cases where the word choice is easily distinguishable.

In this instance, there is not a single mentioning of a computer, not only in the proximity of the incorrectly translated word, but in the entire story. Nor is there any mentioning of other types of technology. Furthermore, the following nouns are clearly a type of a material and do lend themselves to an entirely different translation than the one presented.

In terms of lexical errors per sentence, the following part provides the highest abundance of the entire story.

He got a **destitute** carpenter with one old hammer, **a blunt plane and a few bent and rusty nails** in his tool bag to turn this assortment of wood, paper and metal into door and window shutters for five Nigerian shillings or fifty Biafran pounds.	Získal **tísnivého** tesaře s jedním starým kladivem, **tupým letadlem a několika ohnisky a rezavými nehty** v tašce na nářadí, aby otočil tento sortiment dřeva, papíru a kovu do dveřních a okenních oken pro pět nigerijských šilinků nebo padesát Biafranových liber.	Přiměl jednoho **chudého** tesaře se starým kladivem, **tupým hoblíkem a pár rezivými ohnutými hřebíky** aby ze směsice dřeva, kovu a papíru vyrobil dveře a okenice buď za pět nigerijských šilinků nebo padesát bafrianských liber.

Firstly, there is the incorrect interpretation of the adjective pertaining to the status of the carpenter. Secondly, the ponderous description of the man's possessions is entirely wrong on the account of misinterpreted homographs, leaving aside the hammer. Finally, the handling of the word "shutters" is a dubious choice at best. In summary, although the sentence structure is not quite as clumsy as might have been expected, the translation fails to deliver on the basic level of translation of vocabulary. The choices are most probably attributable to the scarce mentioning of said instruments or objects in literature from which the algorithm derives its precedents for translation. This would, above all, be befitting of the word "plane". A similar misinterpretation can be found on the following page, where a water tap is claimed to express "odklepávání". A surprising oddity can also be observed in the presence of the word "ohniska" for which there seems to be hardly any feasible explanation but which is, without a doubt, an attempt to transform the adjective "bent".

A surprisingly well-handled translation was conducted concerning the akara balls – a dish traditional for the countries of West Africa and Brazil. Made of peeled beans deep-fried in palm oil, this culinary endeavour in not particularly famous in Czech Republic and is therefore scarcely mentioned in any Czech literature or articles. Yet the MT transforms the source phrase into "akarové kuličky", using even a correct inflection.

And so at page six of the translation, the phrase "Nothing puzzles God" appears yet again. And it is handled quite differently than in the first case, being translated in the following fashion:

"Ale nic neohlíží Boha."

It would be strenuous to ascertain which translation is perhaps less incorrect. It is, however, another example of the inept approach to preserving a meaning of a predicate, which does not happen as often throughout the story. The cause of this might be the precarious essence of the original verb which poses a certain challenge even for a human translator. Nevertheless, it is a challenge, which the algorithm fails to rise to.

The following page of translation bolsters a rather accurate translation in terms of the vocabulary involved, with the only error appearing in the very first sentence.

As soon as the **pound notes** were placed in his palm Jonathan simply closed it.	Jakmile byly v dlani umístěny **poznámky o libře**, Jonathan ji jednoduše zavřel.	Jakmile měl Jonathan všechny **bankovky** na dlani, zatnul ji v pěst...

Despite the phrase "pound notes" being almost a collocation, the translator did not manage to capture the meaning of the intended phrase. The most likely reason being the American approach to the word "note" as it is undeniably more of a British term. Even when replacing the word in the source text, the translation is, however, still imperfect.

As soon as the **pound bills** were placed in his palm Jonathan simply closed it.	Jakmile byly **poukázky na libru** uloženy do dlaně, Jonathan je jednoduše zavřel.

It seems as though the translator goes out of its way to create much more complex phrases which even require prepositions. Therefore, it seems safe to assume that the algorithm does not make judgements based on the complexity of the resulting text and thus a simplicity in the execution of the translation is not a priority.

In spite of this passage being virtually errorless in terms of lexicality, the syntactic part of the sentences present are disastrous and shall be analyzed in the following part of the thesis.

Prior to the arrival of the thieves and their conversation with Jonathan, the processes of him falling asleep and awakening are described.

That must have been the last thought in Jonathan's mind before he was finally **carried away** himself. He couldn't have been gone for long, though, when he was violently awakened again.	To muselo být poslední myšlenka v Jonathanově mysli předtím, než byl konečně **uvězněn**. Nemohl však dlouho odejít, když se znovu znovu probudil.	Tato myšlenka musela být tou poslední, která se Jonathanovi prohnala hlavou, než konečně také **usnul**. Netrvalo však dlouho a opět byl násilně přiveden k vědomí.

The original phrasing of the events taking place is to a large degree figurative and thus the translation can hardly reflect the source text adequately. An interesting choice of lexis concerns the phrasal verb at the end of the first sentence "carried away". This verb would lend itself to numerous interpretations. On one hand, it could be taken as a transitive verb denoting the actual act of carrying an object away. On the other, it would be possible to interpret the verb as a synonym for the feeling of being enraptured. The translator chose a verb connected to the act of imprisonment which does seem like a valued decision rather than a simple randomly selected verb. Although obviously imperfect, the solution applied seems to have been crafted with a specific intent.

3.2.2.1 Direct speech and non-grammatical source text

For a machine to successfully translate a source text into a specific language, two repositories of vocabulary are needed. These ought to contain as many words or phrases of both the source and the target language so that parallels can be extracted and subsequently applied in order to replicate the source text as authentically as possible. In practice, however, it would be extremely complex and time-consuming to create bidirectional translators for each separate language. For example, if a person was interested in translating a text from Swahili to Yiddish, the translation would not be direct. Instead, English would be used as an intermediary language. This process is used in order to decrease the number of repositories. Languages which google can translate are not paired in a one to one ratio with each other. They are simply all bidirectional with English. (Ecoffet)

That being said, there is still a basis of vocabulary present for the process of translation. However, a source text which is grammatically incorrect for whatever reason poses quite a complication for the algorithm as the counterpart in the target language cannot be found if the meaning has not been identified in the source language to begin with. In *Civil peace*, there are passages of direct speech produced by the thieves and Jonathan. While Jonathan's speech is delivered with an impeccable diction, the thieves struggle to produce a coherent sentence. Achebe uses the thieves as a plot device to portray the days following the end of the civil war as chaotic and crime-riddled. Families had little to rely on outside of themselves. In the story, the neighbours do not come to help out of fear for their own lives, the police are nowhere to be found and the soldiers are even viewed as a threat themselves. The language spoken by the thieves, or more pecisely their leader, is broken and ungrammatical. Not only that, but Achebe also chose to replicate the accent of western Africa, omitting or indeed adding consonants to specific words, resulting in sets of characters which resemble the proper word but are ultimately misspelled. For the algorithm, this literary device embodies a conundrum which is hardly reconcilable as the word looked for is nowhere to be found in its precise form. In most cases, much like any other online dictionary, the machine attempts to locate a phrase which is closest to the one given. It also adds the factor of statistical prediction crafted from the data available and then singles out the most appropriate candidate for the translation.

In the text analyzed, the results of the aforementioned process have been diverse. An abundance of ungrammatical structures resulted in various errors, some of which are more than curious.

"**My frien**, " said he at long last,	"**Můj příšerník**," řekl konečně,	„**Kamará**," řekl konečně,

This is another instance of the translator presenting a word, which cannot be found in a monolingual Czech dictionary. In this case, however, the word can be found online in various texts. Not only is it used in colloquial descriptions of movie characters, it has also been used over two hundred years ago and is located a book by the botanist Jan Svatopluk Presl. Although the word is, therefore, not created by the algorithm itself, its use is not correct by any metric. Neither Presl nor anyone else used this term to describe a person of familiarity. It is also worth mentioning that if presented to google translate as a single word and not within a sentence, the resulting text becomes "assassin". It would seem rather futile to attempt to establish a theoretical chain of decisions made by the algorithm which lead to this particular translation. In terms of connotation, "příšerník" does present a certain similarity to the character of an assassin. It does not, however, reflect the intended meaning of the word friend. Due to the lack of insight into the specific processes and decisions conducted by the algorithm, the choice made remains obscured. That being said, in lieu of the information available regarding the stages of the process when a lack of specific interpretation of the source word occurs, one of the simplest and perhaps most likely theories would be that the word "frien" was perhaps interpreted as "fiend", in which case the choice made would be understandable.

To add a further confusion, when the word appears later on in the story, it is translated differently.

"**My frien**, why you no de talk again."	"**Můj blázen**, proč si nemyslíš znovu."	,**Kamará**, proč ty nemluvil znova.

The most likely candidate adopted by the translator, even though the resemblance is sparse, as a substitute for the non-existing phrase would be "fool". It is easily observable that in these situations the translator is simply an inadequate tool in handling unprecedented pieces of text. It could be stated that this is not a surprising discovery as the algorithm is not, by its nature, suitable to handle obstacles a priori.

An interesting choice of wording is presented when the translator attempts to process the following sentence.

No **molest**. Abi we de **molest**? " "At all!"	Bez **obtěžování**. Ani jsme **obtěžováni**? " 'Vůbec!'	„Nic **násilnění**. My **násilili** nědy? “ „Nidy!“

While many online translators do transform the word "molest" in a similar manner, it seems rather inaccurate a choice. Taking into consideration that the word "obtěžovat" would at large be much closer to the English term "bother" in its meaning, it does point to a conflicting interpretation of the phrase as such. Although historically the word "molest" was used to convey the same meaning as "bother", nowadays, the meaning of this term is inevitably connected with sexual misconduct and to translate as can be seen above seems rather inaccurate and perhaps derogatory.

Other than that, despite its numerous imperfections, the algorithm handles the translation of the thieves' imperfect English rather skilfully. Perhaps the root of this congruity lies in the fact that, much like the thieves, the algorithm lacks the basic understanding of the complexity of the English language both in its lexis and in its syntax.

3.2.3 Syntactic analysis

Although the morphological, and by extension syntactic, aspect of MT is tackled by the addition of memory cells referred to in the theoretical part, it is obvious that this solution remains largely ineffective in a vast majority of cases.

In the translation of a largely analytical English language into a much more syntactical Czech language, its inflections pertaining to gender tense and case, are, to some extent, correctly realized. The morphosyntax of Czech words is mostly correct and there are almost no examples of incorrectly spelled words or erroneous inflections. What is, however, quite often an issue for the translator is the ascertainment of individual clause constituents and their transformation into sentences written in the Czech language, boasting the correct word order. In other words, the syntax of numerous sentences within the source text is shattered during the process of translation and as a result, the coherence of the text becomes corrupted.

Needless to say, that this is not the case with every sentence. Usually, if the sentence is simple enough and the source text does not contain substitutions, fronting or multiple objects, the resulting text is quite satisfactory in comparison to its original meaning. In *Civil Peace*, there are several examples of sentences where the outcome of the MT can almost be considered superb.

One such instance has already been presented in the lexical part.

His standard charge per trip was six pounds and those who had the money were only glad to be rid of some of it in this way.	Jeho standardní poplatek za každou cestu byl 6 liber a ti, kteří měli peníze, byli jen rádi, že se takovým způsobem zbaví.	Za cestu si účtoval šest liber a ti, kteří peníze měli, se jich tímto způsobem rádi zbavili.

This sentence illustrates how the algorithm is capable of pinpointing not only the individual clauses and add the appropriate punctuation, but also the subject of each clause and then select the correct inflection so as to replicate and maintain the gender and number of the original one. In the excerpt above, the cell holding the information relating to the subject of the first clause correctly distinguishes the shift from the agentive role of Jonathan to the rich people and the predicates of the three following clauses are written in respect to this change. It is also worth pointing out that the algorithm did not get confused by the noun "money" and did not take it for a new subject in spite of the word being a noun. Alas, it also did not, in all likelihood, consider it a direct object. This can be observed in the final clause of the extract where the Czech translation is missing the pronoun which would refer to them.

This distinction sharply contrasts with a different sentence in which the subject is misinterpreted, coincidentally, with the same object – money.

But of course he had insisted that the money had been in the other pocket, pulling it out too to show its comparative wholeness.	Ale samozřejmě trval na tom, že peníze byly v jiné kapse, a vytáhly ji tak, aby ukázaly svou srovnatelnou celistvost.	Nešťastník ale přirozeně trval na tom, že obnos měl v druhé kapse, kterou záhy rovněž vytáhl, aby ukázal její relativní celistvost oproti té první.

In this example, the cell state in relation to the subject of the clause shifts to the one, which is, in reality, an object. As a result, the following predicates take plural form and an inanimate male gender for the remainder of the sentence.

These instances show that the algorithm does attempt to distinguish the changes in the sentence constituents but does fail at times, most likely due to the complexity of the sentences themselves. There are numerous cases, in which the translation is perfect even on the syntactic level. These are, however, mostly short and leave little room for misinterpretations.

So one had to be careful.	Takže člověk musel být opatrný.	Člověk prostě musel být opatrný.
"Who is knocking?" whispered his wife lying beside him on the floor.	"Kdo klepá?" zašeptala jeho manželka ležící vedle něj na podlaze.	„Kdo to klepá?“ zašeptala jeho žena, ležící na zemi vedle něj.
Jonathan thought he heard even more voices now than before and groaned heavily.	Jonathan si myslel, že slyšel ještě víc hlasů než předtím a ztěžka zasténal.	Jonathan si myslel, že slyší ještě více hlasů než předtím a ztěžka zaúpěl.

The extracts above do show that the algorithm can translate simpler sentences accurately. The word order is not disorganized and the inflections are chosen correctly. Even the finiteness is maintained. It could be argued that these are mere coincidences and that the sentences correctly translated pose a minuscule fraction of the text of the entire story. Nevertheless, taking into consideration the fundamental differences between the languages involved, these examples could also be considered a great success.

At this point, it also should be mentioned that there are much more accomplished attempts at translating texts from various languages using algorithms. One such instance is the DeepL translator. This program utilizes another branch of neural networking in an attempt to attain artificial intelligence called Deep learning. (LeCun) The results of this algorithm and its translations are again rather mixed in its precision, however, it does manage to craft astonishingly accurate translations, given the right circumstances. It does cover only seven languages so far but is expected to add additional ones in the future. The Czech language is, unfortunately, not one of the existing ones, most likely due to its modest significance in comparison with other more spoken languages. One of these is German and the quality of translations between the two languages can be surprising.

Jonathan Iwegbu counted himself extra-ordinarily lucky. "Happy survival!" meant so much more to him than just a current fashion of greeting old friends in the first hazy days of peace. It went deep to his heart. He had come out of the war with five inestimable blessings--his head, his wife Maria's head and the heads of three out of their four children. As a bonus he also had his old bicycle--a miracle too but naturally not to be compared to the safety of five human heads.

Jonathan Iwegbu hatte außerordentliches Glück. Happy Survival" bedeutete für ihn so viel mehr als nur eine aktuelle Art und Weise, alte Freunde in den ersten dunstigen Tagen des Friedens zu begrüßen. Es ging tief in sein Herz. Er war mit fünf unschätzbaren Segnungen aus dem Krieg gekommen - seinem Kopf, dem Kopf seiner Frau Maria und den Köpfen von drei ihrer vier Kinder. Als Bonus hatte er auch sein altes Fahrrad - ein Wunder, aber natürlich nicht zu vergleichen mit der Sicherheit von fünf Menschenköpfen.

While the Czech translation conducted by Google Translate was rather shabby, DeepL transforms the meaning of the first paragraph of the story into German without as much as a single mistake. The subject-verb concord is maintained, the articles are chosen correctly and even the word order is perfectly in line with the German grammatical rules. This specific algorithm excels in translating texts between English and German yet delivers less impressive results with other language combinations, namely when French is involved. Nevertheless, it does possess the ability to emulate a human being in translations between the two aforementioned languages.

Czech translations by Google are, however, nowhere near this level of precision. Perhaps the issue is with the complexity of the Czech language and lack of resemblance with English. There are simply not enough source texts in Czech for the algorithm to compare with similar texts in English thereby limiting the repository of Big Data. Whatever the case may be, the coherence of the translated text of Achebe's short story is at many times wanting. The degree to which this is the case depends on the gravity of the mistakes, ranging from insignificant mishaps to errors which render entire sentences incomprehensible.

Several sentences clearly illustrate that the translator does not perform perfectly. Even when the source sentence is quite simple, the machine fails to identify syntactic elements, which then leads to errors in translation. The cell status does not update nearly as effectively as it should and tends to disregard prepositions in the source language, which should lead to varying inflection within the target language.

He had come out of the war with five inestimable blessings--his head, his wife Maria's head and the heads of three out of their four children.	Vyšel z války s pěti neocenitelnými požehnání - jeho hlavu, manželku Marii hlavu a hlavy tří z jejich čtyř děti.	Z války vyšel s pěticí nedocenitelných požehnání – se svou hlavou, hlavou jeho ženy Marie a s hlavami tří z jejich čtyř dětí.

In this instance, the algorithm incorrectly handles the translation of the prepositional object, thus failing to establish the correct case of the noun in the target language. As a result, the following nouns are also incorrect and do not adequately reflect the original text.

The imperfections can, at times, be linked to the inevitable fact that language as such is not an ideal phenomenon to be crafted by an algorithm. The nature of the two contradicts itself. Although both syntactic and lexical aspects of a language are governed by rules, there are numerous exceptions to these rules and to distinguish between them is not a simple task. It could be stated that it does necessarily require an individual capable of thought in order to do so.

One of the basic tenants of the English syntax is the subject – verb – object structure. As English contains rather few inflections, the word order dictates the role of each word. As was mentioned before, the algorithm is not aware of any rules. It crafts the translations based on a database of previous examples. When a traditional pattern of the SVO structure is broken, it should, in theory, not be bound by the rule and perhaps form a correct translation. Such situations take place in the cases of fronting.

That night he buried it in the little clearing in the bush where the dead of the camp, including his own youngest son, were buried.	Ta noc ho pohřbil v malém úkrytu v křoví, kde byl pohřben mrtvý tábor, včetně jeho nejmladšího syna.	Tu noc jej zahrabal v křoví na mýtince, kde byli pohřbeni mrtví z tábora, včetně jeho nejmladšího syna.

While in the previous case, where the translator missed the connection between the preposition and the object, here, it did not miss any sentence element. It simply performed the translation based on the majority of precedences. In fact, completely in harmony with the SVO principle. The fronted adverbial of time is therefore undetected and is considered to be the subject of the clause.

The sentence above does present conflicting aspects of machine translation. While it does create said error and an additional one when translating the phrase “the dead of the camp”, it is interesting to observe the creative liberty the algorithm takes with the ending of the sentence. The overall processing of the order of individual clauses is quite ingenious.

3.2.3.1 Most notable syntactic errors

The errors in translation mentioned so far in the syntactic analysis, were of a less significant nature, in terms of distinguishing the original meaning of each sentence. Unfortunately, more often than not, the translator mishandles the source text and produces an utterly illogical construct. The more uncommon the word order, the more absurd the translation becomes.

Came the day of the windfall when after five days of endless scuffles in queues and counter-queues in the sun outside the Treasury he had twenty pounds counted into his palms as exgratia award for the rebel money he had turned in.	Přišel den neočekávané, když po pěti dnech nekonečné překážky ve frontách a protilehlých frontách na slunci před ministerstvem financí, které měl dvacet liber, započítával do jeho dlaní jako cenu exgratia za povstalecké peníze, které odvrátil.	Po pěti dnech nekonečných potyček při stání v té či oné frontě na slunci před ministerstvem financí, přišel šťastný den, kdy mu bylo do otevřených dlaní napočítáno dvacet liber jako odměna za odevzdání peněz rebelů.

The further this sentence is unfolded, the more the original sentence becomes twisted and turned into an incomprehensible mash of words. Numerous words lose one or more of their syntactical relations to one another. First and foremost, the passive voice is not detected and the middle clause is therefore incorrectly handled. Secondly, a structure resembling an attributive clause is inserted into the sentence for an unknown reason. And finally, the phrasal verb at the end of the sentence is incorrectly identified in the target language, most likely due to the fact that its connection with the particle “in” was not recognized.

So comes the sentence with the most confused word order, lexis, and inflections in the entire text.

Though it was not right that a man in such an extremity of agony should be blamed yet many in the queues that day were able to remark quietly on the victim's carelessness, especially after he pulled out the innards of his pocket and revealed a hole in it big enough to pass a thief's head.	Ačkoli to nebylo správné, že člověk na takový konec agónie by měl být obviňován ještě mnoho ve frontách, které v ten den mohli klidně poznamenat na nedbalost oběti, zvláště poté, co vytáhl vnitřnosti kapsy a odhalil v něm díru dostatečně velká, aby prošla zlodějovou hlavou.	Ačkoli se nesluší házet na někoho vinu v situaci, kdy jediné co cítí, je příšerná agonie, mnozí přihlížející briskně poukázali na lehkovážnost oběti. Obzvláště po té, kdy dotyčný obrátil svou kapsu naruby a odhalil v ní otvor tak velký, že by jím jistě prošla i pachatelova hlava.

It would be rather difficult to discern which elements effected which in the erroneous decisions made by the algorithm. Subjects are misidentified and thus the inflections are incorrect. Several words are added, seemingly for no reason. Objects are swapped. And some words are plainly wrong in their translation.

This sentence could serve as a perfect illustration of the imperfections of the contemporary level of machine translation.

4 Conclusion

Machines and computers have already replaced humans in many areas of expertise to a varying degree of success. Perfecting their performance in the realm of translation is certainly an ongoing process. As was mentioned before, language as such is a complex phenomenon and its flexibility is difficult to encode into something as narrow as are the principles of an algorithm. Although the Neural Network seems like a logical step to take in order to attain the best possible level of translation, its performance remains far from satisfactory.

It ought to be mentioned that it is not a question of solving a single issue. The enormous number of languages spoken require a distinct variation for almost every case in order to produce a coherent text. Naturally, the number of additional algorithms is substantially reduced by the proposition of an intermediate language. It is perhaps incumbent on future developers of the translating software to produce a more delicate analytical system when it comes to discerning individual clause elements. As is rather obvious from the analysis performed, a majority of errors stems from the inability to correctly identify the subject of a sentence.

Needless to say, this proposition is easier said than done. The varying word order in each language requires not only a specifically designed system for identifying individual elements, but also further developed methods of resolving exceptions to grammatical standards – such as the English fronting. Furthermore, the process of improving the algorithm is even more complicated due to the opaque decision making of the algorithm itself. The principle idea of Neural Networks is to provide the machine with a mind of its own, which ought to be able to adapt and learn based on processed data, thus the program keeps developing itself. For that reason, it is difficult even for the programmers to fine-tune its performance, as the algorithm itself is of such a nature that it is almost impossible to be altered by another party. And if such a situation was to occur, the machine would quite possibly reverse the alteration, due to its ability to adapt and learn, which was perhaps how it got to the original form in the first place.

This seems difficult but not impossible. Several algorithms, such as the mentioned DeepL, perform translations between several languages with satisfactory results. A question stands as to whether it is in fact solely due to the quality of the algorithm or whether the process is simplified by the fact that both English and German are members of the same branch of Indo-European languages.

The phrase “Nothing puzzles God.”, which is omnipresent throughout the story, is rather symptomatic of machine translation. Although it carries a label of artificial intelligence, the decision making of the algorithm is incomparable to the one a human translator. Phrases such as thought process can hardly be attributable to online translators. Essentially, to attain a perfect translating machine, a person would have to be able to perfectly analyze the process performed by a human brain, reduce it to numerous lines of simple instructions and then draw precise parallels to the target language and, using a similar set of instructions, build the sentence again. Naturally, respecting all the exceptions to grammar rules, the complications of literary figures mentioned in the theoretical part – metaphors, alliterations, puns etc., which pose problems even for the most skilled human translators.

For these reasons, it appears logical to apply machine translators only when processing specific types of texts. The instructive or procedural text style, as defined by Werlich, would seem like the optimal choice, due to its precise and perhaps monotonous nature.

Whatever the case may be, so far, the translator seems to be incapable of processing any text type, when translating from English into Czech. There are still too many errors, and the effort of forming sentences which only contain three to four words, solely in order to make the process simpler for the machine, seems like a rather futile attempt at solving the issue. Overall, it appears that the contemporary capabilities of machine translators are insufficient. If perfected, the benefits would be immeasurable in terms of time effectiveness and practicality both for business purposes and everyday life.

Although it is inevitable that the effectivity of machine translation is going to improve, it remains uncertain whether a true perfection can be achieved. Anything short of precise science and calculation has so far been faulty when performed by a machine. The fluidity of language, its proclivity to be moulded and developed, certainly poses a challenge not only for a program but also for the human mind. To think about the way in which it forms ideas and thoughts into sentences. To think about how, or if, a language can be simplified to such a level, on which a Shakespearean text could be broken down and rebuilt accurately using the simplest of instructions.

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